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PARTS 51 TO 199
Revised as of January 1, 1991

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PARTS 51 TO 199

Revised as of January 1, 1991

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Cite this Code: **CFR**

To cite the regulations in this volume use title, part and section number. Thus, 10 CFR 51.1 *refers to title 10, part 51, section 1.*

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The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles which represent broad areas subject to Federal regulation. Each title is divided into chapters which usually bear the name of the issuing agency. Each chapter is further subdivided into parts covering specific regulatory areas.

ISSUE DATES

Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

Title 1 through Title 16	as of January 1
Title 17 through Title 27	as of April 1
Title 28 through Title 41	as of July 1
Title 42 through Title 50	as of October 1

The appropriate revision date is printed on the cover of each volume.

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(b) The matter incorporated is in fact available to the extent necessary to afford fairness and uniformity in the administrative process.

(c) The incorporating document is drafted and submitted for publication in accordance with 1 CFR part 51.

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MARTHA L. GIRARD,
Director,
Office of the Federal Register.

January 1, 1991.

THIS TITLE

Title 10—Energy is composed of five volumes. The parts in these volumes are arranged in the following order: Parts 0-50, 51-199, 200-399, 400-499 and Part 500-End. The first and second volumes containing Parts 0-199 are comprised of Chapter I— Nuclear Regulatory Commission. The third, fourth, and fifth volumes containing Part 200-End are comprised of Chapters II, III and X—Department of Energy and Chapter XV—Office of the Federal Inspector for the Alaska Natural Gas Transportation System. The contents of these volumes represent all current regulations codified under this title of the CFR as of January 1, 1991.

For this volume, Jacquelyn J. Demsky was Chief Editor. The Code of Federal Regulations publication program is under the direction of Richard L. Claypoole, assisted by Alomha S. Morris.

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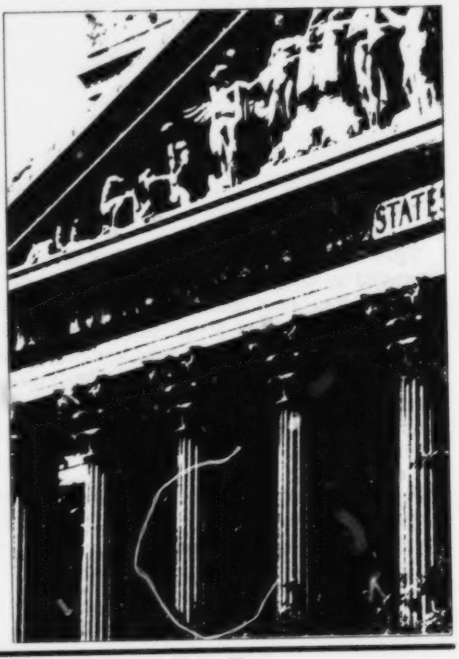

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APPENDIX A TO SUBPART A—FORMAT FOR PRESENTATION OF MATERIAL IN ENVIRONMENTAL IMPACT STATEMENTS

AUTHORITY: Sec. 161, 68 Stat. 948, as amended (42 U.S.C. 2201); secs. 201, as amended, 202, 88 Stat. 1242, as amended, 1244 (42 U.S.C. 5841, 5842).

Subpart A also issued under National Environmental Policy Act of 1969, secs. 102, 104, 105, 83 Stat. 853-854, as amended (42 U.S.C. 4332, 4334, 4335); and Pub. L. 95-604, Title II, 92 Stat. 3033-3041. Sections 51.20, 51.30, 51.60, 51.61, 51.80, and 51.97 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241, and sec. 148, Pub. L. 100-203, 101 Stat. 1330-223 (42 U.S.C. 10155, 10161, 10168). Section 51.22 also issued under sec. 274, 73 Stat. 688, as amended by 92 Stat. 3036-3038 (42 U.S.C. 2021) and under Nuclear Waste Policy Act of 1982, sec. 121, 96 Stat. 2228 (42 U.S.C. 10141). Secs. 51.43, 51.67, and 51.109 also issued under Nuclear Waste Policy Act of 1982, sec. 114(f), 96 Stat. 2216, as amended (42 U.S.C. 10134(f)).

SOURCE: 49 FR 9381, Mar. 12, 1984, unless otherwise noted.

§ 51.1 Scope.

This part contains environmental protection regulations applicable to NRC's domestic licensing and related regulatory functions. These regulations do not apply to export licensing matters within the scope of part 110 of this chapter or to any environmental effects which NRC's domestic licensing and related regulatory functions may have upon the environment of foreign nations. Subject to these limitations, the regulations in this part implement:

(a) Section 102(2) of the National Environmental Policy Act of 1969, as amended.

§ 51.2 Subparts.

(a) The regulations in subpart A of this part implement section 102(2) of the National Environmental Policy Act of 1969, as amended.

§ 51.3 Resolution of conflict.

In any conflict between a general rule in subpart A of this part and a special rule in another subpart of this part or another part of this chapter applicable to a particular type of proceeding, the special rule governs.

§ 51.4 Definitions.

As used in this part:

Act means the Atomic Energy Act of 1954 (Pub. L. 83-703, 68 Stat. 919) including any amendments thereto.

Commission means the Nuclear Regulatory Commission or its authorized representatives.

NRC means the Nuclear Regulatory Commission, the agency established by Title II of the Energy Reorganization Act of 1974, as amended.

NRC staff means any NRC officer or employee or his/her authorized representative, except a Commissioner, a member of a Commissioner's immediate staff, an Atomic Safety and Licensing Board, an Atomic Safety and Licensing Appeal Board, a presiding officer, an administrative judge, an administrative law judge, or any other officer or employee of the Commission who performs adjudicatory functions.

NRC Staff Director means:

Executive Director for Operations;

Director, Office of Nuclear Reactor Regulation;

Director, Office of Nuclear Material Safety and Safeguards;

Director, Office of Nuclear Regulatory Research;

Director, Office of Governmental and Public Affairs; and

The designee of any NRC staff director.

[49 FR 9381, Mar. 12, 1984, as amended at 51 FR 35999, Oct. 8, 1986; 52 FR 31612, Aug. 21, 1987]

§ 51.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 51.6 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and are otherwise in the public interest.

Subpart A—National Environmental Policy Act—Regulations Implementing Section 102(2)

§ 51.10 Purpose and scope of subpart; application of regulations of Council on Environmental Quality.

(a) The National Environmental Policy Act of 1969, as amended (NEPA) directs that, to the fullest extent possible: (1) The policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in NEPA, and (2) all agencies of the Federal Government shall comply with the procedures in section 102(2) of NEPA except where compliance would be inconsistent with other statutory requirements. The regulations in this subpart implement section 102(2) of NEPA in a manner which is consistent with the NRC's domestic licensing and related regulatory authority under the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and the Uranium Mill Tailings Radiation Control Act of 1978, and which reflects the Commission's announced policy to take account of the regulations of the Council on Environmental Quality published November 29, 1978 (43 FR 55978-56007) voluntarily, subject to certain conditions. This subpart does not apply to export licensing matters within the scope of part 110 of this chapter nor does it apply to any environmental effects which NRC's domestic licensing and related regulatory functions may have upon the environment of foreign nations.

(b) The Commission recognizes a continuing obligation to conduct its domestic licensing and related regulatory functions in a manner which is both receptive to environmental concerns and consistent with the Commission's responsibility as an independent regulatory agency for protecting the radiological health and safety of the public. Accordingly, the Commission will:

(1) Examine any future interpretation or change to the Council's NEPA regulations;

(2) Follow the provisions of 40 CFR 1501.5 and 1501.6 relating to lead agencies and cooperating agencies, except that the Commission reserves the right to prepare an independent environmental impact statement whenever the NRC has regulatory jurisdiction over an acitivity even though the NRC has not been designated as lead agency for preparation of the statement; and

(3) Reserve the right to make a final decision on any matter within the NRC's regulatory authority even though another agency has made a predecisional referral of an NRC action to the Council under the procedures of 40 CFR part 1504.

(c) The regulations in this subpart[1] also address the limitations imposed on NRC's authority and responsibility under the National Environmental Policy Act of 1969, as amended, by the Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92-500, 86 Stat. 816 *et seq.* (33 U.S.C. 1251 *et seq.*) In accordance with section 511(c)(2) of the Federal Water Pollution Control Act (86 Stat. 893, 33 U.S.C 1371(c)(2)) the NRC recognizes that responsibility for Federal regulation of nonradiological pollutant discharges[2] into receiving waters rests by statute with the Environmental Protection Agency.

(d) Commission actions initiating or relating to administrative or judicial civil or criminal enforcement actions or proceedings are not subject to section 102(2) of NEPA. These actions include issuance of notices, orders, and denials of requests for action pursuant to subpart B of part 2 of this chapter, matters covered by part 15 and part 160 of this chapter, and any other matters covered by Appendix C to part 2 of this chapter.

---

[1] See also Second Memorandum of Understanding Regarding Implementation of Certain NRC and EPA Responsibilities and Policy Statement on Implementation of Section 511 of the Federal Water Pollution Control Act (FWPCA) attached as Appendix A thereto, which were published in the FEDERAL REGISTER on December 31, 1975 (40 FR 60115) and became effective January 30, 1976.

[2] On June 1, 1976, the U.S. Supreme Court held that "'pollutants' subject to regulation under the FWPCA [Federal Water Pollution Control Act] do not include source, byproduct, and special nuclear materials, . . ." *Train* v. *Colorado PIRG*, 426 U.S. 1 at 25.

[49 FR 9381, Mar. 12, 1984, as amended at 54 FR 43578, Oct. 26, 1989]

§ 51.11 Relationship to other subparts. [Reserved]

§ 51.12 Application of subpart to ongoing environmental work.

(a) Except as otherwise provided in this section, the regulations in this subpart shall apply to the fullest extent practicable to NRC's ongoing environmental work.

(b) No environmental report or any supplement to an environmental report filed with the NRC and no environmental assessment, environmental impact statement or finding of no significant impact or any supplement to any of the foregoing issued by the NRC before June 7, 1984, need be redone and no notice of intent to prepare an environmental impact statement or notice of availability of these environmental documents need be republished solely by reason of the promulgation on March 12, 1984, of this revision of part 51.

[49 FR 9381, Mar. 12, 1984, as amended at 49 FR 24513, June 14, 1984]

§ 51.13 Emergencies.

Whenever emergency circumstances make it necessary and whenever, in other situations, the health and safety of the public may be adversely affected if mitigative or remedial actions are delayed, the Commission may take an action with significant environmental impact without observing the provisions of these regulations. In taking an action covered by this section, the Commission will consult with the Council as soon as feasible concerning appropriate alternative NEPA arrangements.

§ 51.14 Definitions.

(a) As used in this subpart:

Categorical Exclusion means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which the Commission has found to have no such effect in accordance with procedures set out in § 51.22, and for which, therefore, neither an environmental assessment nor an environmental impact statement is required.

Cooperating Agency means any Federal agency other than the NRC which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. By agreement with the Commission, a State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe, may become a cooperating agency.

Council means the Council on Environmental Quality (CEQ) established by Title II of NEPA.

DOE means the U.S. Department of Energy or its duly authorized representatives.

Environmental Assessment means a concise public document for which the Commission is responsible that serves to:

(1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.

(2) Aid the Commission's compliance with NEPA when no environmental impact statement is necessary.

(3) Facilitate preparation of an environmental impact statement when one is necessary.

Environmental document includes an environmental assessment, an environmental impact statement, a finding of no significant impact, an environmental report and any supplements to or comments upon those documents, and a notice of intent.

Environmental Impact Statement means a detailed written statement as required by section 102(2)(C) of NEPA.

Environmental report means a document submitted to the Commission by an applicant for a permit, license, or other form of permission, or an amendment to or renewal of a permit, license or other form of permission, or by a petitioner for rulemaking, in order to aid the Commission in complying with section 102(2) of NEPA.

Finding of No Significant Impact means a concise public document for which the Commission is responsible that briefly states the reasons why an action, not otherwise excluded, will not have a significant effect on the human environment and for which therefore an environmental impact statement will not be prepared.

NEPA means the National Environmental Policy Act of 1969, as amended (Pub. L. 91-190, 83 Stat. 852, 856, as amended by Pub. L. 94-83, 89 Stat. 424, 42 U.S.C. 4321, *et seq.*).

Notice of Intent means a notice that an environmental impact statement will be prepared and considered.

(b) The definitions in 40 CFR 1508.3, 1508.7, 1508.8, 1508.14, 1508.15, 1508.16, 1508.17, 1508.18, 1508.20, 1508.23, 1508.25, 1508.26, and 1508.27, will also be used in implementing section 102(2) of NEPA.

§ 51.15 Time schedules.

Consistent with the purposes of NEPA, the Administrative Procedure Act, the Commission's rules of practice in part 2 of this chapter, §§ 51.100 and 51.101, and with other essential considerations of national policy:

(a) The appropriate NRC staff director may, and upon the request of an applicant for a proposed action or a petitioner for rulemaking shall, establish a time schedule for all or any constituent part of the NRC staff NEPA process. To the maximum extent practicable, the NRC staff will conduct its NEPA review in accordance with any time schedule established under this section.

(b) Pursuant to subpart G of part 2 of this chapter, the presiding officer, the Atomic Safety and Licensing Appeal Board or the Commissioners acting as a collegial body may establish a time schedule for all or any part of an adjudicatory or rulemaking proceeding to the extent that each has jurisdiction.

§ 51.16 Proprietary information.

(a) Proprietary information, such as trade secrets or privileged or confidential commercial or financial information, will be treated in accordance with the procedures provided in § 2.790, "Public Inspections, Exemptions, Requests for Withholding," of part 2, "Rules of Practice," of this chapter.

(b) Any proprietary information which a person seeks to have withheld from public disclosure shall be submitted in accordance with § 2.790 of this chapter. When submitted, the proprietary information should be clearly identified and accompanied by a request, containing detailed reasons and justifications, that the proprietary information be withheld from public disclosure. A non-proprietary summary describing the general content of the proprietary information should also be provided.

§ 51.17 Information collection requirements; OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (42 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0021.

(b) The approved information collection requirements in this part appear in §§ 51.16, 51.41, 51.45, 51.50, 51.51, 51.52, 51.53, 51.54, 51.55, 51.60, 51.61, 51.62, 51.66, 51.68, and 51.69.

[49 FR 24513, June 14, 1984]

PRELIMINARY PROCEDURES

CLASSIFICATION OF LICENSING AND REGULATORY ACTIONS

§ 51.20 Criteria for and identification of licensing and regulatory actions requiring environmental impact statements.

(a) Licensing and regulatory actions requiring an environmental impact statement shall meet at least one of the following criteria:

(1) The proposed action is a major Federal action significantly affecting the quality of the human environment.

(2) The proposed action involves a matter which the Commission, in the exercise of its discretion, has deter-

mined should be covered by an environmental impact statement.

(b) The following types of actions require an environmental impact statement or a supplement to an environmental impact statement:

(1) Issuance of a limited work authorization or a permit to construct a nuclear power reactor, testing facility or fuel reprocessing plant pursuant to part 50 of this chapter.

(2) Issuance or renewal of a full power or design capacity license to operate a nuclear power reactor, testing facility, or fuel reprocessing plant pursuant to part 50 of this chapter.

(3) Issuance of a permit to construct or a design capacity license to operate or renewal of a design capacity license to operate an isotopic enrichment plant pursuant to part 50 of this chapter.

(4) Conversion of a provisional operating license for a nuclear power reactor, testing facility or fuel reprocessing plant to a full term or design capacity license pursuant to part 50 of this chapter if a final environmental impact statement covering full term or design capacity operation has not been previously prepared.

(5) [Reserved]

(6) Issuance of a license to manufacture pursuant to Appendix M of part 52 of this chapter.

(7) Issuance of a license to possess and use special nuclear material for processing and fuel fabrication, scrap recovery, or conversion of uranium hexafluoride pursuant to part 70 of this chapter.

(8) Issuance of a license to possess and use source material for uranium milling or production of uranium hexafluoride pursuant to part 40 of this chapter.

(9) Issuance of a license pursuant to part 72 of this chapter for the storage of spent fuel in an independent spent fuel storage installation (ISFSI) at a site not occupied by a nuclear power reactor, or for the storage of spent fuel or high-level radioactive waste in a monitored retrievable storage installation (MRS).

(10 [Reserved]

(11) Issuance of renewal of a license authorizing receipt and disposal of radioactive waste from other persons pursuant to part 61 of this chapter.

(12) Issuance of a license amendment pursuant to part 61 of this chapter authorizing (i) closure of a land disposal site, (ii) transfer of the license to the disposal site owner for the purpose of institutional control, or (iii) termination of the license at the end of the institutional control period.

(13) Issuance of a construction authorization and license pursuant to part 60 of this chapter.

(14) Any other action which the Commission determines is a major Commission action significantly affecting the quality of the human environment. As provided in § 51.22(b), the Commission may, in special circumstances, prepare an environmental impact statement on an action covered by a categorical exclusion.

[49 FR 9381, Mar. 12, 1984, as amended at 53 FR 31681, Aug. 19, 1988; 53 FR 24052, June 27, 1988; 54 FR 15398, Apr. 18, 1989; 54 FR 27870, July 3, 1989]

§ 51.21 Criteria for and identification of licensing and regulatory actions requiring environmental assessments.

All licensing and regulatory actions subject to this subpart require an environmental assessment except those identified in § 51.20(b) as requiring an environmental impact statement, those identified in § 51.22(c) as categorical exclusions, and those identified in § 51.22(d) as other actions not requiring environmental review. As provided in § 51.22(b), the Commission may, in special circumstances, prepare an environmental assessment on an action covered by a categorical exclusion.

[54 FR 27870, July 3, 1989]

§ 51.22 Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review.

(a) Licensing and regulatory actions eligible for categorical exclusion shall meet the following criterion: The proposed action belongs to a category of actions which the Commission, by rule or regulation, has declared to be a categorical exclusion, after first finding that the category of actions does not individually or cumulatively have a significant effect on the human environment.

(b) Except in special circumstances, as determined by the Commission upon its own initiative or upon request of any interested person, an environmental assessment or an environmental impact statement is not required for any action within a category of actions included in the list of categorical exclusions set out in paragraph (c) of this section. Special circumstances include the circumstance where the proposed action involves unresolved conflicts concerning alternative uses of available resources within the meaning of section 102(2)(E) of NEPA.

(c) The following categories of actions are categorical exclusions:

(1) Amendments to Parts 0, 1, 2, 4, 7, 8, 9, 10, 11, 14, 19, 21, 25, 55, 75, 95, 110, 140, 150, 170, or 171 of this chapter, and actions on petitions for rulemaking relating to these amendments.

(2) Amendments to the regulations in this chapter which are corrective or of a minor or nonpolicy nature and do not substantially modify existing regulations, and actions on petitions for rulemaking relating to these amendments.

(3) Amendments to Parts 20, 30, 31, 32, 33, 34, 35, 39, 40, 50, 51, 60, 61, 70, 71, 72, 73, 74, 81 and 100 of this chapter which relate to (i) procedures for filing and reviewing applications for licenses or construction permits or other forms of permission or for amendments to or renewals of licenses or construction permits or other forms of permission; (ii) recordkeeping requirements; or (iii) reporting requirements; and (iv) actions on petitions for rulemaking relating to these amendments.

(4) Entrance into or amendment, suspension, or termination of all or part of an agreement with a State pursuant to section 274 of the Atomic Energy Act of 1954, as amended, providing for assumption by the State and discontinuance by the Commission of certain regulatory authority of the Commission.

(5) Procurement of general equipment and supplies.

(6) Procurement of technical assistance, confirmatory research provided that the confirmatory research does not involve any significant construction impacts, and personal services relating to the safe operation and protection of commercial reactors, other facilities, and materials subject to NRC licensing and regulation.

(7) Personnel actions.

(8) Issuance, amendment, or renewal of operators' licenses pursuant to part 55 of this chapter.

(9) Issuance of an amendment to a permit or license for a reactor pursuant to part 50 of this chapter which changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in part 20 of this chapter, or which changes an inspection or a surveillance requirement, provided that (i) the amendment involves no significant hazards consideration, (ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite, and (iii) there is no significant increase in individual or cumulative occupational radiation exposure.

(10) Issuance of an amendment to a permit or license pursuant to Parts 30, 31, 32, 33, 34, 35, 39, 40, 50, 60, 61, 70 or part 72 of this chapter which (i) changes surety, insurance and/or indemnity requirements, or (ii) changes recordkeeping, reporting, or administrative procedures or requirements.

(11) Issuance of amendments to licenses for fuel cycle plants and radioactive waste disposal sites and amendments to materials licenses identified in § 51.60(b)(1) which are administrative, organizational, or procedural in nature, or which result in a change in process operations or equipment, provided that (i) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite, (ii) there is no significant increase in individual or cumulative occupational radiation exposure, (iii) there is no significant construction impact, and (iv) there is no significant increase in the potential for or consequences from radiological accidents.

(12) Issuance of an amendment to a license pursuant to Parts 50, 60, 61, 70, 72 or 75 of this chapter relating solely to safeguards matters (i.e., protection against sabotage or loss or diversion of special nuclear material) or issuance of an approval of a safeguards plan submitted pursuant to Parts 50, 70, 72, and 73 of this chapter, provided that the amendment or approval does not involve any significant construction impacts. These amendments and approvals are confined to (i) organizational and procedural matters, (ii) modifications to systems used for security and/or materials accountability, (iii) administrative changes, and (iv) review and approval of transportation routes pursuant to 10 CFR 73.37.

(13) Approval of package designs for packages to be used for the transportation of licensed materials.

(14) Issuance, amendment, or renewal of materials licenses issued pursuant to 10 CFR Parts 30, 31, 32, 33, 34, 35, 39, 40 or part 70 authorizing the following types of activities:

(i) Distribution of radioactive material and devices or products containing radioactive material to general licensees and to persons exempt from licensing.

(ii) Distribution of radiopharmaceuticals, generators, reagent kits and/or sealed sources to persons licensed pursuant to 10 CFR 35.14 and 35.100.

(iii) Nuclear pharmacies.

(iv) Medical and veterinary.

(v) Use of radioactive materials for research and development and for educational purposes.

(vi) Industrial radiography.

(vii) Irradiators.

(viii) Use of sealed sources and use of gauging devices, analytical instruments and other devices containing sealed sources.

(ix) Use of uranium as shielding material in containers or devices.

(x) Possession of radioactive material incident to performing services such as installation, maintenance, leak tests and calibration.

(xi) Use of sealed sources and/or radioactive tracers in well-logging procedures.

(xii) Acceptance of packaged radioactive wastes from others for transfer to licensed land burial facilities provided the interim storage period for any package does not exceed 180 days and the total possession limit for all packages held in interim storage at the same time does not exceed 50 curies.

(xiii) Manufacturing or processing of source, byproduct, or special nuclear materials for distribution to other licensees, except processing of source material for extraction of rare earth and other metals.

(xiv) Nuclear laundries.

(xv) Possession, manufacturing, processing, shipment, testing, or other use of depleted uranium military munitions.

(xvi) Any use of source, byproduct, or special nuclear material not listed above which involves quantities and forms of source, byproduct, or special nuclear material similar to those listed in paragraphs (c)(14) (i) through (xv) of this section (Category 14).

(15) Issuance, amendment or renewal of licenses for import of nuclear facilities and materials pursuant to part 110 of this chapter, except for import of spent power reactor fuel.

(16) Issuance or amendment of guides for the implementation of regulations in this chapter, and issuance or amendment of other informational and procedural documents that do not impose any legal requirements.

(17) Issuance of an amendment to a permit or license pursuant to Parts 30, 40, 50 or part 70 of this chapter which deletes any limiting condition of operation or monitoring requirement based on or applicable to any matter subject to the provisions of the Federal Water Pollution Control Act.

(18) Issuance of amendments or orders authorizing licensees of production or utilization facilities to resume operation, provided the basis for the authorization rests solely on a determination or redetermination by the Commission that applicable emergency planning requirements are met.

(d) In accordance with section 121 of the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10141), the promulgation of technical requirements and criteria that the Commission will apply in approving or disapproving applications under part 60 of this chapter shall not require an environmental impact statement, an environmental assessment, or any environmental review under subparagraph (E) or (F) of section 102(2) of NEPA.

[49 FR 9381, Mar. 12, 1984, as amended at 51 FR 9766, Mar. 21, 1986; 51 FR 33231, Sept. 18, 1986; 52 FR 8241, Mar. 17, 1987; 54 FR 27870, July 3, 1989]

§ 51.23 Temporary storage of spent fuel after cessation of reactor operation—generic determination of no significant environmental impact.

(a) The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.

(b) Accordingly, as provided in §§ 51.30(b), 51.53, 51.61, 51.80(b), 51.95 and 51.97(a), and within the scope of the generic determination in paragraph (a) of this section, no discussion of any environmental impact of spent fuel storage in reactor facility storage pools or independent spent fuel storage installations (ISFSI) for the period following the term of the reactor operating license or amendment or initial ISFSI license or amendment for which application is made, is required in any environmental report, environmental impact statement, environmental assessment or other analysis prepared in connection with the issuance or amendment of an operating license for a nuclear reactor or in connection with the issuance of an initial license for storage of spent fuel at an ISFSI, or any amendment thereto.

(c) This section does not alter any requirements to consider the environmental impacts of spent fuel storage during the term of a reactor operating license or a license for an ISFSI in a licensing proceeding.

[49 FR 34694, Aug. 31, 1984, as amended at 55 FR 38474, Sept. 18, 1990]

DETERMINATIONS TO PREPARE IMPACT STATEMENTS, ENVIRONMENTAL ASSESSMENTS OR FINDINGS OF NO SIGNIFICANT IMPACT, AND RELATED PROCEDURES

§ 51.25 Determination to prepare environmental impact statement or environmental assessment; eligibility for categorical exclusion.

Before taking a proposed action subject to the provisions of this subpart, the appropriate NRC staff director will determine on the basis of the criteria and classifications of types of actions in §§ 51.20, 51.21 and 51.22 of this subpart whether the proposed action is of the type listed in § 51.22(c) as a categorical exclusion or whether an environmental impact statement or an environmental assessment should be prepared. An environmental assessment is not necessary if it is determined that an environmental impact statement will be prepared.

§ 51.26 Requirement to publish notice of intent and conduct scoping process.

(a) Whenever the appropriate NRC staff director determines that an environmental impact statement will be prepared by NRC in connection with a proposed action, a notice of intent will be prepared as provided in § 51.27, and will be published in the Federal Register as provided in § 51.116, and an appropriate scoping process (see §§ 51.27, 51.28, and 51.29) will be conducted.

(b) The scoping process may include a public scoping meeting.

(c) Upon receipt of an application and accompanying environmental impact statement under § 60.22 of this chapter (pertaining to geologic repositories for high-level radioactive waste), the appropriate NRC staff director will include in the notice of docketing required to be published by § 2.101(f)(8) of this chapter a statement of Commission intention to adopt the environmental impact statement to the extent practicable. However, if the appropriate NRC staff director determines, at the time of such publication or at any time thereafter, that NRC should prepare a supplemental environmental impact statement in connection with the Commission's action on the license application, the procedures set out in paragraph (a) of this section shall be followed.

[49 FR 9381, Mar. 12, 1984, as amended at 54 FR 27870, July 3, 1989]

§ 51.27 Notice of intent.

(a) The notice of intent required by § 51.26 shall:

(1) State that an environmental impact statement will be prepared;

(2) Describe the proposed action and, to the extent sufficient information is available, possible alternatives;

(3) State whether the applicant or petitioner for rulemaking has filed an environmental report, and, if so, where copies are available for public inspection;

(4) Describe the proposed scoping process, including the role of participants, whether written comments will be accepted, the last date for submitting comments and where comments should be sent, whether a public scoping meeting will be held, the time and place of any scoping meeting or when the time and place of the meeting will be announced; and

(5) State the name, address and telephone number of an individual in NRC who can provide information about the proposed action, the scoping process, and the environmental impact statement.

SCOPING

§ 51.28 Scoping—participants.

(a) The appropriate NRC staff director shall invite the following persons to participate in the scoping process:

(1) The applicant or the petitioner for rulemaking;

(2) Any person who has petitioned for leave to intervene in the proceeding or who has been admitted as a party to the proceeding;

(3) Any other Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved or which is authorized to develop and enforce relevant environmental standards;

(4) Affected State and local agencies, including those authorized to develop and enforce relevant environmental standards;

(5) Any affected Indian tribe; and

(6) Any person who has requested an opportunity to participate in the scoping process.

(b) The appropriate NRC staff director may also invite any other appropriate person to participate in the scoping process.

(c) Participation in the scoping process for an environmental impact statement does not entitle the participant to become a party to the proceeding to which the environmental impact statement relates. Participation in an adjudicatory proceeding is governed by the procedures in 10 CFR 2.714 and 2.715. Participation in a rulemaking proceeding in which the Commission has decided to have a hearing is governed by the provisions in the notice of hearing.

§ 51.29 Scoping—environmental impact statement.

(a) The scoping process for an environmental impact statement shall begin as soon as practicable after publication of the notice of intent as provided in § 51.116, and shall be used to:

(1) Define the proposed action which is to be the subject of the statement. The provisions of 40 CFR 1502.4 will be used for this purpose.

(2) Determine the scope of the statement and identify the significant issues to be analyzed in depth.

(3) Identify and eliminate from detailed study issues which are peripheral or are not significant or which have been covered by prior environmental review. Discussion of these issues in the statement will be limited to a brief presentation of why they are peripheral or will not have a significant effect on the quality of the human environment or a reference to their coverage elsewhere.

(4) Identify any environmental assessments and other environmental impact statements which are being or will be prepared that are related to

but are not part of the scope of the statement under consideration.

(5) Identify other environmental review and consultation requirements related to the proposed action so that other required analyses and studies may be prepared concurrently and integrated with the environmental impact statement.

(6) Indicate the relationship between the timing of the preparation of environmental analyses and the Commission's tentative planning and decisionmaking schedule.

(7) Identify any cooperating agencies, and as appropriate, allocate assignments for preparation and schedules for completion of the statement to the NRC and any cooperating agencies.

(8) Describe the means by which the environmental impact statement will be prepared, including any contractor assistance to be used.

(b) At the conclusion of the scoping process, the appropriate NRC staff director will prepare a concise summary of the determinations and conclusions reached, including the significant issues identified, and will send a copy of the summary to each participant in the scoping process.

(c) At any time prior to issuance of the draft environmental impact statement, the appropriate NRC staff director may revise the determinations made under paragraph (b) of this section, as appropriate, if substantial changes are made in the proposed action, or if significant new circumstances or information arise which bear on the proposed action or its impacts.

ENVIRONMENTAL ASSESSMENT

§ 51.30 Environmental assessment.

(a) An environmental assessment shall identify the proposed action and include:

(1) A brief discussion of:

(i) The need for the proposed action;

(ii) Alternatives as required by section 102(2)(E) of NEPA;

(iii) The environmental impacts of the proposed action and alternatives as appropriate; and

(2) A list of agencies and persons consulted, and identification of sources used.

(b) Unless otherwise determined by the Commission, an environmental assessment will not include discussion of any aspect of the storage of spent fuel within the scope of the generic determination in § 51.23(a) and in accordance with the provisions of § 51.23(b).

(c) An environmental assessment for a proposed action regarding a monitored retrievable storage installation (MRS) will not address the need for the MRS or any alternative to the design criteria for an MRS set forth in section 141(b)(1) of the Nuclear Waste Policy Act of 1982 (96 Stat. 2242, 42 U.S.C. 10161(b)(1)).

[49 FR 9381, Mar. 12, 1984, as amended at 49 FR 34694, Aug. 31, 1984; 53 FR 31681, Aug. 19, 1988]

§ 51.31 Determinations based on environmental assessment.

Upon completion of an environmental assessment, the appropriate NRC staff director will determine whether to prepare an environmental impact statement or a finding of no significant impact on the proposed action. As provided in § 51.33, a determination to prepare a draft finding of no significant impact may be made.

FINDING OF NO SIGNIFICANT IMPACT

§ 51.32 Finding of no significant impact.

(a) A finding of no significant impact will:

(1) Identify the proposed action;

(2) State that the Commission has determined not to prepare an environmental impact statement for the proposed action;

(3) Briefly present the reasons why the proposed action will not have a significant effect on the quality of the human environment;

(4) Include the environmental assessment or a summary of the environmental assessment. If the assessment is included, the finding need not repeat any of the discussion in the assessment but may incorporate it by reference;

(5) Note any other related environmental documents; and

(6) State that the finding and any related environmental documents are available for public inspection and where the documents may be inspected.

§ 51.33 Draft finding of no significant impact; distribution.

(a) As provided in paragraph (b) of this section, the appropriate NRC staff director may make a determination to prepare and issue a draft finding of no significant impact for public review and comment before making a final determination whether to prepare an environmental impact statement or a final finding of no significant impact on the proposed action.

(b) Circumstances in which a draft finding of no significant impact may be prepared will ordinarly include the following:

(1) A finding of no significant impact appears warranted for the proposed action but the proposed action is (i) closely similar to one which normally requires the preparation of an environmental impact statement, or (ii) without precedent; and

(2) The appropriate NRC staff director determines that preparation of a draft finding of no significant impact will further the purposes of NEPA.

(c) A draft finding of no significant impact will (1) be marked "Draft", (2) contain the information specified in § 51.32, (3) be accompanied by or include a request for comments on the proposed action and on the draft finding within thirty (30) days, or such longer period as may be specified in the notice of the draft finding, and (4) be published in the FEDERAL REGISTER as required by §§ 51.35 and 51.119.

(d) A draft finding will be distributed as provided in § 51.74(a). Additional copies will be made available in accordance with § 51.123.

(e) When a draft finding of no significant impact is issued for a proposed action, a final determination to prepare an environmental impact statement or a final finding of no significant impact for that action shall not be made until the last day of the public comment period has expired.

§ 51.34 Preparation of finding of no significant impact.

(a) Except as provided in paragraph (b) of this section, the finding of no significant impact will be prepared by the NRC staff director authorized to take the action.

(b) When a hearing is held on the proposed action under the regulations in subpart G of part 2 of this chapter or when the action can only be taken by the Commissioners acting as a collegial body, the appropriate NRC staff director will prepare a proposed finding of no significant impact which may be subject to modification as a result of review and decision as appropriate to the nature and scope of the proceeding. In such cases, the presiding officer, the Atomic Safety and Licensing Appeal Board, or the Commission acting as a collegial body, as appropriate, will issue the final finding of no significant impact.

§ 51.35 Requirement to publish finding of no significant impact; limitation on Commission action.

(a) Whenever the Commission makes a draft or final finding of no significant impact on a proposed action, the finding will be published in the FEDERAL REGISTER as provided in § 51.119.

(b) Except as provided in § 51.13, the Commission shall not take the proposed action until after the final finding has been published in the FEDERAL REGISTER.

ENVIRONMENTAL REPORTS AND INFORMATION—REQUIREMENTS APPLICABLE TO APPLICANTS AND PETITIONERS FOR RULEMAKING

GENERAL

§ 51.40 Consultation with NRC Staff.

(a) A prospective applicant or petitioner for rulemaking is encouraged to confer with NRC staff as early as possible in its planning process before submitting environmental information or filing an environmental report.

(b) Requests for guidance or information on environmental matters may include inquiries relating to:

(1) Applicable NRC rules and regulations;

(2) Format, content and procedures for filing environmental reports and other environmental information, including the type and quantity of environmental information likely to be needed to address issues and concerns identified in the scoping process described in § 51.29 in a manner appropriate to their relative significance;

(3) Availability of relevant environmental studies and environmental information;

(4) Need for, appropriate level and scope of any environmental studies or information which the Commission may require to be submitted in connection with an application or petition for rulemaking;

(5) Public meetings with NRC staff.

(c) Questions concerning environmental matters should be addressed to the following NRC staff offices as appropriate:

(1) *Utilization facilities:* Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-1270.

(2) *Production facilities:* Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-3352.

(3) *Materials licenses:* Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-3352.

(4) *Rulemaking:* Director, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-3700.

(5) *General Environmental Matters:* Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-1700.

[49 FR 9381, Mar. 12, 1984, as amended at 53 FR 13399, Apr. 25, 1988]

§ 51.41 Requirement to submit environmental information.

The Commission may require an applicant for a permit, license, or other form of permission, or amendment to or renewal of a permit, license or other form of permission, or a petitioner for rulemaking to submit such information to the Commission as may be useful in aiding the Commission in complying with section 102(2) of NEPA. The Commission will independently evaluate and be responsible for the reliability of any information which it uses.

ENVIRONMENTAL REPORTS—GENERAL REQUIREMENTS

§ 51.45 Environmental report.

(a) *General.* As required by §§ 51.50, 51.53, 51.54, 51.60, 51.61, 51.62 or § 51.68, as appropriate, each applicant or petitioner for rulemaking shall submit with its application or petition for rulemaking one signed original of a separate document entitled "Applicant's" or "Petitioner's Environmental Report," as appropriate, and the number of copies specified in §§ 51.55, 51.66 or § 51.69. An applicant or petitioner for rulemaking may submit a supplement to an environmental report at any time.

(b) *Environmental considerations.* The environmental report shall contain a description of the proposed action, a statement of its purposes, a description of the environment affected, and discuss the following considerations:

(1) The impact of the proposed action on the environment. Impacts shall be discussed in proportion to their significance;

(2) Any adverse environmental effects which cannot be avoided should the proposal be implemented;

(3) Alternatives to the proposed action. The discussion of alternatives shall be sufficiently complete to aid the Commission in developing and exploring, pursuant to section 102(2)(E) of NEPA, "appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." To the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form;

(4) The relationship between local short-term uses of man's environment

and the maintenance and enhancement of long-term productivity; and

(5) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

(c) *Analysis.* The environmental report shall include an analysis which considers and balances the environmental effects of the proposed action and the alternatives available for reducing or avoiding adverse environmental effects, as well as the environmental, economic, technical and other benefits of the proposed action. The analysis shall, to the fullest extent practicable, quantify the various factors considered. To the extent that there are important qualitative considerations or factors that cannot be quantified, those considerations or factors shall be discussed in qualitative terms. The environmental report should contain sufficient data to aid the Commission in its development of an independent analysis.

(d) *Status of compliance.* The environmental report shall list all Federal permits, licenses, approvals and other entitlements which must be obtained in connection with the proposed action and shall describe the status of compliance with these requirements. The environmental report shall also include a discussion of the status of compliance with applicable environmental quality standards and requirements including, but not limited to, applicable zoning and land-use regulations, and thermal and other water pollution limitations or requirements which have been imposed by Federal, State, regional, and local agencies having responsibility for environmental protection. The discussion of alternatives in the report shall include a discussion of whether the alternatives will comply with such applicable environmental quality standards and requirements.

(e) *Adverse information.* The information submitted pursuant to paragraphs (b) through (d) of this section should not be confined to information supporting the proposed action but should also include adverse information.

ENVIRONMENTAL REPORTS—PRODUCTION AND UTILIZATION FACILITIES

§ 51.50 Environmental report—construction permit stage.

Each applicant for a permit to construct a production or utilization facility covered by § 51.20 shall submit with its application the number of copies, as specified in § 51.55, of a separate document, entitled "Applicant's Environmental Report—Construction Permit Stage," which shall contain the information specified in §§ 51.45, 51.51 and 51.52. Each environmental report shall identify procedures for reporting and keeping records of environmental data, and any conditions and monitoring requirements for protecting the non-aquatic environment, proposed for possible inclusion in the license as environmental conditions in accordance with § 50.36b of this chapter.

§ 51.51 Uranium fuel cycle environmental data—Table S-3.

(a) Every environmental report prepared for the construction permit stage of a light-water-cooled nuclear power reactor, and submitted on or after September 4, 1979, shall take Table S-3, Table of Uranium Fuel Cycle Environmental Data, as the basis for evaluating the contribution of the environmental effects of uranium mining and milling, the production of uranium hexafluoride, isotopic enrichment, fuel fabrication, reprocessing of irradiated fuel, transportation of radioactive materials and management of low level wastes and high level wastes related to uranium fuel cycle activities to the environmental costs of licensing the nuclear power reactor. Table S-3 shall be included in the environmental report and may be supplemented by a discussion of the environmental significance of the data set forth in the table as weighed in the analysis for the proposed facility.

(b) Table S-3.

TABLE S-3—TABLE OF URANIUM FUEL CYCLE ENVIRONMENTAL DATA [1]

[Normalized to model LWR annual fuel requirement [WASH-1248] or reference reactor year [NUREG-0116]]

[See footnotes at end of this table]

Environmental considerations	Total	Maximum effect per annual fuel requirement or reference reactor year of model 1,000 MWe LWR
NATURAL RESOURCE USE		
Land (acres):		
Temporarily committed [2]	100	
Undisturbed area	79	
Disturbed area	22	Equivalent to a 110 MWe coal-fired power plant.
Permanently committed	13	
Overburden moved (millions of MT)	2.8	Equivalent to 95 MWe coal-fired power plant
Water (millions of gallons):		
Discharged to air	160	=2 percent of model 1,000 MWe LWR with cooling tower.
Discharged to water bodies	11,090	
Discharged to ground	127	
Total	11,377	<4 percent of model 1,000 MWe LWR with once-through cooling.
Fossil fuel:		
Electrical energy (thousands of MW-hour)	323	<5 percent of model 1,000 MWe LWR output.
Equivalent coal (thousands of MT)	118	Equivalent to the consumption of a 45 MWe coal-fired power plant.
Natural gas (millions of scf)	135	<0.4 percent of model 1,000 MWe energy output.
EFFLUENTS—CHEMICAL (MT)		
Gases (including entrainment): [3]		
SO_x	4,400	
NO_x [4]	1,190	Equivalent to emissions from 45 MWe coal-fired plant for a year.
Hydrocarbons	14	
CO	29.6	
Particulates	1,154	
Other gases:		
F	.67	Principally from UF_6 production, enrichment, and reprocessing. Concentration within range of state standards—below level that has effects on human health.
HCl	.014	
Liquids:		
SO^-_4	9.9	From enrichment, fuel fabrication, and reprocessing steps. Components that constitute a potential for adverse environmental effect are present in dilute concentrations and receive additional dilution by receiving bodies of water to levels below permissible standards. The constituents that require dilution and the flow of dilution water are: NH_3—600 cfs., NO_3—20 cfs., Fluoride—70 cfs.
NO^-_3	25.8	
Fluoride	12.9	
Ca^{++}	5.4	
$C1^-$	8.5	
Na^+	12.1	
NH_3	10.0	
Fe	.4	
Tailings solutions (thousands of MT)	240	From mills only—no significant effluents to environment.
Solids	91,000	Principally from mills—no significant effluents to environment.
Effluents—Radiological (curies)		
Gases (including entrainment):		
Rn-222		Presently under reconsideration by the Commission.
Ra-226	.02	
Th-230	.02	
Uranium	.034	
Tritium (thousands)	18.1	
C-14	24	
Kr-85 (thousands)	400	
Ru-106	.14	Principally from fuel reprocessing plants.
I-129	1.3	
I-131	.83	
Tc-99		Presently under consideration by the Commission.
Fission products and transuranics	.203	
Liquids:		
Uranium and daughters	2.1	Principally from milling—included tailings liquor and returned to ground—no effluents; therefore, no effect on environment.

TABLE S-3—TABLE OF URANIUM FUEL CYCLE ENVIRONMENTAL DATA [1]—Continued

[Normalized to model LWR annual fuel requirement [WASH-1248] or reference reactor year [NUREG-0116]]

[See footnotes at end of this table]

Environmental considerations	Total	Maximum effect per annual fuel requirement or reference reactor year of model 1,000 MWe LWR
Ra-226	.0034	From UF$_6$ production.
Th-230	.0015	
Th-234	.01	From fuel fabrication plants—concentration 10 percent of 10 CFR 20 for total processing 26 annual fuel requirements for model LWR.
Fission and activation products	5.9×10^{-6}	
Solids (buried on site):		
Other than high level (shallow)	11,300	9,100 Ci comes from low level reactor wastes and 1,500 Ci comes from reactor decontamination and decommissioning—buried at land burial facilities. 600 Ci comes from mills—included in tailings returned to ground. Approximately 60 Ci comes from conversion and spent fuel storage. No significant effluent to the environment.
TRU and HLW (deep)	^{11} 1.1×10	Buried at Federal Repository.
Effluents—thermal (billions of British thermal units)	4,063	<5 percent of model 1,000 MWe LWR.
Transportation (person-rem):		
Exposure of workers and general public	2.5	
Occupational exposure (person-rem)	22.6	From reprocessing and waste management.

[1] In some cases where no entry appears it is clear from the background documents that the matter was addressed and that, in effect, the Table should be read as if a specific zero entry had been made. However, there are other areas that are not addressed at all in the Table. Table S-3 does not include health effects from the effluents described in the Table, or estimates of releases of Radon-222 from the uranium fuel cycle or estimates of Technetium-99 released from waste management or reprocessing activities. These issues may be the subject of litigation in the individual licensing proceedings.

Data supporting this table are given in the "Environmental Survey of the Uranium Fuel Cycle," WASH-1248, April 1974; the "Environmental Survey of the Reprocessing and Waste Management Portion of the LWR Fuel Cycle," NUREG-0116 (Supp.1 to WASH-1248); the "Public Comments and Task Force Responses Regarding the Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle," NUREG-0216 (Supp. 2 to WASH-1248); and in the record of the final rulemaking pertaining to Uranium Fuel Cycle Impacts from Spent Fuel Reprocessing and Radioactive Waste Management, Docket RM-50-3. The contributions from reprocessing, waste management and transportation of wastes are maximized for either of the two fuel cycles (uranium only and no recycle). The contribution from transportation excludes transportation of cold fuel to a reactor and of irradiated fuel and radioactive wastes from a reactor which are considered in Table S-4 of § 51.20(g). The contributions from the other steps of the fuel cycle are given in columns A-E of Table S-3A of WASH-1248.

[2] The contributions to temporarily committed land from reprocessing are not prorated over 30 years, since the complete temporary impact accrues regardless of whether the plant services one reactor for one year or 57 reactors for 30 years.

[3] Estimated effluents based upon combustion of equivalent coal for power generation.

[4] 1.2 percent from natural gas use and process.

[49 FR 9381, Mar. 12, 1984; 49 FR 10922, Mar. 23, 1984]

§ 51.52 Environmental effects of transportation of fuel and waste—Table S-4.

Every environmental report prepared for the construction permit stage of a light-water-cooled nuclear power reactor, and submitted after February 4, 1975, shall contain a statement concerning transportation of fuel and radioactive wastes to and from the reactor. That statement shall indicate that the reactor and this transportation either meet all of the conditions in paragraph (a) of this section or all of the conditions in paragraph (b) of this section.

(a)(1) The reactor has a core thermal power level not exceeding 3,800 megawatts;

(2) The reactor fuel is in the form of sintered uranium dioxide pellets having a uranium-235 enrichment not exceeding 4% by weight, and the pellets are encapsulated in zircaloy rods;

(3) The average level of irradiation of the irradiated fuel from the reactor does not exceed 33,000 megawatt-days per metric ton, and no irradiated fuel assembly is shipped until at least 90 days after it is discharged from the reactor;

(4) With the exception of irradiated fuel, all radioactive waste shipped from the reactor is packaged and in a solid form;

(5) Unirradiated fuel is shipped to the reactor by truck; irradiated fuel is shipped from the reactor by truck, rail, or barge; and radioactive waste other than irradiated fuel is shipped from the reactor by truck or rail; and

(6) The environmental impacts of transportation of fuel and waste to and from the reactor, with respect to normal conditions of transport and possible accidents in transport, are as set forth in Summary Table S-4 in paragraph (c) of this section; and the values in the table represent the contribution of the transportation to the environmental costs of licensing the reactor.

(b) For reactors not meeting the conditions of paragraph (a) of this section, the statement shall contain a full description and detailed analysis of the environmental effects of transportation of fuel and wastes to and from the reactor, including values for the environmental impact under normal conditions of transport and for the environmental risk from accidents in transport. The statement shall indicate that the values determined by the analysis represent the contribution of such effects to the environmental costs of licensing the reactor.

(c)

SUMMARY TABLE S-4—ENVIRONMENTAL IMPACT OF TRANSPORTATION OF FUEL AND WASTE TO AND FROM ONE LIGHT-WATER-COOLED NUCLEAR POWER REACTOR [1]

Normal Conditions of Transport

	Environmental impact
Heat (per irradiated fuel cask in transit)	250,000 Btu/hr.
Weight (governed by Federal or State restrictions)	73,000 lbs. per truck; 100 tons per cask per rail car.
Traffic density:	
Truck	Less than 1 per day.
Rail	Less than 3 per month

Exposed population	Estimated number of persons exposed	Range of doses to exposed individuals [2] (per reactor year)	Cumulative dose to exposed population (per reactor year) [3]
Transportation workers	200	0.01 to 300 millirem	4 man-rem.
General public:			
Onlookers	1,100	0.003 to 1.3 millirem	3 man-rem.
Along Route	600,000	0.0001 to 0.06 millirem	

Accidents in Transport

	Environmental risk
Radiological effects	Small [4]
Common (nonradiological) causes	1 fatal injury in 100 reactor years; 1 nonfatal injury in 10 reactor years; $475 property damage per reactor year.

[1] Data supporting this table are given in the Commission's "Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants," WASH-1238, December 1972, and Supp. 1 NUREG-75/038 April 1975. Both documents are available for inspection and copying at the Commission's Public Document Room, 2120 L Street NW., Washington, DC and may be obtained from National Technical Information Service, Springfield, VA 22161. WASH-1238 is available from NTIS at a cost of $5.45 (microfiche, $2.25) and NUREG-75/038 is available at a cost of $3.25 (microfiche, $2.25).

[2] The Federal Radiation Council has recommended that the radiation doses from all sources of radiation other than natural background and medical exposures should be limited to 5,000 millirem per year for individuals as a result of occupational exposure and should be limited to 500 millirem per year for individuals in the general population. The dose to individuals due to average natural background radiation is about 130 millirem per year.

[3] Man-rem is an expression for the summation of whole body doses to individuals in a group. Thus, if each member of a population group of 1,000 people were to receive a dose of 0.001 rem (1 millirem), or if 2 people were to receive a dose of 0.5 rem (500 millirem) each, the total man-rem dose in each case would be 1 man-rem.

[4] Although the environmental risk of radiological effects stemming from transportation accidents is currently incapable of being numerically quantified, the risk remains small regardless of whether it is being applied to a single reactor or a multireactor site.

[49 FR 9381, Mar. 12, 1984; 49 FR 10922, Mar. 23, 1984, as amended at 53 FR 43420, Oct. 27, 1988]

§ 51.53 Supplement to environmental report.

(a) *Operating license stage.* Each applicant for a license or for renewal of a license to operate a production or utilization facility covered by § 51.20 shall submit with its application the number of copies, as specified in § 51.55, of a separate document, entitled "Supplement to Applicant's Environmental Report—Operating License Stage," which will update "Applicant's Environmental Report—Construction Permit Stage." Unless the applicant requests the renewal of an operating license or unless otherwise required by the Commission, the applicant for an operating license for a nuclear power reactor shall submit this report only in connection with the first licensing action authorizing full power operation. In this report, the applicant shall discuss the same matters described in §§ 51.45, 51.51 and 51.52, but only to the extent that they differ from those discussed or reflect new information in addition to that discussed in the final environmental impact statement prepared by the Commission in connection with the construction permit. Unless otherwise required by the Commission, no discussion of need for power or alternative energy sources or alternative sites for the facility or of any aspect of the storage of spent fuel for the facility within the scope of the generic determination in § 51.23(a) and in accordance with § 51.23(b) is required in this report. The "Supplement to Applicant's Environment Report—Operating License Stage" may incorporate by reference any information contained in the "Applicant's Environmental Report—Construction Permit Stage," final environmental impact statement or record of decision previously prepared in connection with the construction permit.

(b) *Post operating license stage.* Each applicant for a license amendment authorizing the decommissioning of a production or utilization facility covered by § 51.20 and each applicant for a license or license amendment to store spent fuel at a nuclear power reactor after expiration of the operating license for the nuclear power reactor shall submit with its application the number of copies, as specified in § 51.55, of a separate document, entitled "Supplement to Applicant's Environmental Report—Post Operating License Stage," which will update "Applicant's Environmental Report—Operating License Stage," as appropriate, to reflect any new information or significant environmental change associated with the applicant's proposed decommissioning activities or with the applicant's proposed activities with respect to the planned storage of spent fuel. Unless otherwise required by the Commission, in accordance with the generic determination in § 51.23(a) and the provisions in § 51.23(b), the applicant shall only address the environmental impact of spent fuel storage for the term of the license applied for. The "Supplement to Applicant's Environmental Report—Post Operating License Stage" may incorporate by reference any information contained in "Applicant's Environmental Report—Construction Permit Stage," "Supplement to Applicant's Environmental Report—Operating License Stage," final environmental impact statement, supplement to final environmental impact statement of records of decision previously prepared in connection with the construction permit or operating license.

[49 FR 34694, Aug. 31, 1984, as amended at 53 FR 24052, June 27, 1988]

§ 51.54 Environmental report—manufacturing license.

Each applicant for a license to manufacture a nuclear power reactor or, for an amendment to a license to manufacture seeking approval of the final design of the nuclear power reactor, pursuant to appendix M of part 52 of this chapter, shall submit with its application, as specified in § 50.4, a separate document, entitled "Applicant's Environmental Report—Manufacturing License," or "Supplement to Applicant's Environmental Report—Manufacturing License." The environmental report shall address the environmental matters specified in appendix M of part 52 of this chapter, and shall contain the information specified in § 51.45, as appropriate.

[51 FR 40311, Nov. 6, 1986, as amended at 54 FR 15398, Apr. 18, 1989]

§ 51.55 Environmental report—number of copies; distribution.

(a) Each applicant for a license to construct and operate a production or utilization facility covered by paragraphs (b)(1), (b)(2), (b)(3) or (b)(4) of § 51.20 and each applicant for a license amendment authorizing the decommissioning of a production or utilization facility covered by § 51.20, and each applicant for a license or license amendment to store spent fuel at a nuclear power reactor after expiration of the operating license for the nuclear power reactor shall submit to the Director of Nuclear Reactor Regulation or the Director of Nuclear Material Safety and Safeguards, as appropriate, forty-one (41) copies of an environmental report, or any supplement to an environmental report. The applicant shall retain an additional 109 copies of the environmental report or any supplement to the environmental report for distribution to parties and Boards in the NRC proceeding, Federal, State, and local officials and any affected Indian tribes, in accordance with written instructions issued by the Director of Nuclear Reactor Regulation or the Director of Nuclear Material Safety and Safeguards, as appropriate.

(b) Each applicant for a license to manufacture a nuclear power reactor, or for an amendment to a license to manufacture seeking approval of the final design of the nuclear power reactor, pursuant to appendix M of part 52 of this chapter shall submit to the Commission an environmental report or any supplement to an environmental report in the manner specified in § 50.4. The applicant shall retain an additional 109 copies of the environmental report or any supplement to the environmental report for distribution to parties and Boards in the NRC proceeding, Federal, State, and local officials and any affected Indian tribes, in accordance with written instructions issued by the Director of Nuclear Reactor Regulation.

[51 FR 40311, Nov. 6, 1986, as amended at 53 FR 24052, June 27, 1988; 54 FR 15398, Apr. 18, 1989]

ENVIRONMENTAL REPORTS—MATERIALS LICENSES

§ 51.60 Environmental report—materials licenses.

(a) Each applicant for a license or other form of permission, or an amendment to or renewal of a license or other form of permission issued pursuant to parts 30, 32, 33, 34, 35, 39, 40, 61, 70 and/or 72 of this chapter, and covered by paragraphs (b)(1) through (b)(6) of this section, shall submit with its application to the Director of Nuclear Material Safety and Safeguards the number of copies, as specified in § 51.66, of a separate document, entitled "Applicant's Environmental Report" or "Supplement to Applicant's Environmental Report," as appropriate. The "Applicant's Environmental Report" shall contain the information specified in § 51.45. If the application is for an amendment to or a renewal of a license or other form of permission for which the applicant has previously submitted an environmental report, the supplement to applicant's environmental report may be limited to incorporating by reference, updating or supplementing the information previously submitted to reflect any significant environmental change, including any significant environmental change resulting from operational experience or a change in operations or proposed decommissioning activities. If the applicant is the U.S. Department of Energy, the environmental report may be in the form of either an environmental impact statement or an environmental assessment, as appropriate.

(b) As required by paragraph (a) of this section, each applicant shall prepare an environmental report for the following types of actions:

(1) Issuance or renewal of a license or other form of permission for:

(i) Possession and use of special nuclear material for processing and fuel fabrication, scrap recovery, or conversion of uranium hexafluoride pursuant to part 70 of this chapter.

(ii) Possession and use of source material for uranium milling or production of uranium hexafluoride pursuant to part 40 of this chapter.

(iii) Storage of spent fuel in an independent spent fuel storage installation (ISFSI) or the storage of spent fuel or high-level radio-active waste in a monitored retrievable storage installation (MRS) pursuant to part 72 of this chapter.

(iv) Receipt and disposal of radioactive waste from other persons pursuant to part 61 of this chapter.

(v) Processing of source material for extraction of rare earth and other metals.

(vi) Use of radioactive tracers in field flood studies involving secondary and tertiary oil and gas recovery.

(2) Issuance of an amendment that would authorize or result in (i) a significant expansion of a site, (ii) a significant change in the types of effluents, (iii) a significant increase in the amounts of effluents, (iv) a significant increase in individual or cumulative occupational radiation exposure, (v) a significant increase in the potential for or consequences from radiological accidents, or (vi) a significant increase in spent fuel storage capacity, in a license or other form of permission to conduct an activity listed in paragraph (b)(1) of this section.

(3) Termination of a license for the possession and use of source material for uranium milling.

(4) Amendment of a license to authorize the decommissioning of an independent spent fuel storage installation (ISFSI) or a monitored retrievable storage installation (MRS) pursuant to part 72 of this chapter.

(5) Issuance of a license amendment pursuant to part 61 of this chapter authorizing (i) closure of a land disposal site, (ii) transfer of the license to the disposal site owner for the purpose of institutional control, or (iii) termination of the license at the end of the institutional control period.

(6) Any other licensing action for which the Commission determines an Environmental Report is necessary.

[49 FR 9381, Mar. 12, 1984, as amended at 53 FR 31681, Aug. 19, 1988]

§ 51.61 Environmental report—independent spent fuel storage installation (ISFSI) or monitored retrievable storage installation (MRS) license.

Each applicant for issuance of a license for storage of spent fuel in an independent spent fuel storage installation (ISFSI) or for the storage of spent fuel and high-level radioactive waste in a monitored retrievable storage installation (MRS) pursuant to part 72 of this chapter shall submit with its application to the Director of Nuclear Material Safety and Safeguards the number of copies, as specified in § 51.66 of a separate document entitled "Applicant's Environmental Report—ISFSI License" or "Applicant's Environmental Report—MRS License," as appropriate. If the applicant is the U.S. Department of Energy, the environmental report may be in the form of either an environmental impact statement or an environmental assessment, as appropriate. The environmental report shall contain the information specified in § 51.45 and shall address the siting evaluation factors contained in subpart E of part 72 of this chapter. Unless otherwise required by the Commission, in accordance with the generic determination in § 51.23(a) and the provisions in § 51.23(b), no discussion of the environmental impact of the storage of spent fuel at an ISFSI beyond the term of the license or amendment applied for is required in an environmental report submitted by an applicant for an initial license for storage of spent fuel in an ISFSI, or any amendment thereto.

[53 FR 31681, Aug. 19, 1988]

§ 51.62 Environmental report—land disposal of radioactive waste licensed under 10 CFR part 61.

(a) Each applicant for issuance of a license for land disposal of radioactive waste pursuant to part 61 of this chapter shall submit with its application to the Director of Nuclear Material Safety and Safeguards the number of copies, as specified in § 51.66 of a separate document, entitled "Applicant's Environmental Report—License for Land Disposal of Radioactive Waste." The environmental report and any supplement to the environmental report may incorporate by reference information contained in the application or in any previous application, statement or report filed with the Commission *provided* that such references are clear and specific and that copies of the information so incorporated are available in the NRC Public Document Room at 2120 L Street NW., Washington, DC and in any public document room established by the Commission near the proposed land disposal site.

(b) The environmental report shall contain the information specified in § 51.45, shall address the applicant's environmental monitoring program required by §§ 61.12(l), 61.53 and 61.59(b) of this chapter, and shall be as complete as possible in the light of information that is available at the time the environmental report is submitted.

(c) The applicant shall supplement the environmental report in a timely manner as necessary to permit the Commission to review, prior to issuance, amendment or renewal of a license, new information regarding the environmental impact of previously proposed activities, information regarding the environmental impact of any changes in previously proposed activities, or any significant new information regarding the environmental impact of closure activities and long-term performance of the disposal site.

[49 FR 9381, Mar. 12, 1984, as amended at 53 FR 43420, Oct. 27, 1988]

§ 51.66 Environmental report—number of copies; distribution.

(a) Each applicant for a license or other form of permission, or an amendment to or renewal of a license or other form of permission issued pursuant to parts 30, 32, 33, 34, 35, 39, 40, 61, 70 and/or 72 of this chapter, and covered by paragraphs (b)(1) through (6) of § 51.60; or by § 51.61 or § 51.62 shall submit to the Director of Nuclear Material Safety and Safeguards an environmental report or any supplement to an environmental report in the number of copies specified. The applicant shall retain additional copies of the environmental report or any supplement to the environmental report in the number of copies specified for distribution to Federal, State, and local officials and any affected Indian tribes in accordance with written instructions issued by the Director of Nuclear Material Safety and Safeguards.

(b)

ENVIRONMENTAL REPORT

Type of licensing action	Number of copies to be submitted with application	Number of copies to be retained by applicant for subsequent distribution
Licensing actions requiring environmental impact statements pursuant to § 51.20(b).	25 copies	125 copies.
Licensing actions requiring environmental assessments pursuant to § 51.21.	15 copies	None.

[49 FR 9381, Mar. 12, 1984, as amended at 52 FR 8241, Mar. 17, 1987]

§ 51.67 Environmental information concerning geologic repositories.

(a) In lieu of an environmental report, the Department of Energy, as an applicant for a license or license amendment pursuant to part 60 of this chapter, shall submit to the Commission any final environmental impact statement which the Department prepares in connection with any geologic repository developed under Subtitle A of Title I, or under Title IV, of the Nuclear Waste Policy Act of 1982, as amended. (See § 60.22 of this chapter as to required time and manner of submission.) The statement shall include, among the alternatives under consideration, denial of a license or construction authorization by the Commission.

(b) Under applicable provisions of law, the Department of Energy may be required to supplement its final environmental impact statement if it makes a substantial change in its proposed action that is relevant to environmental concerns or determines that there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. The Department shall submit any supplement to its final environmental impact statement to the Commission. (See § 60.22 of this chapter as to required time and manner of submission.)

(c) Whenever the Department of Energy submits a final environmental impact statement, or a final supplement to an environmental impact statement, to the Commission pursuant to this section, it shall also inform the Commission of the status of any civil action for judicial review initiated pursuant to section 119 of the Nuclear Waste Policy Act of 1982. This status report, which the Department shall update from time to time to reflect changes in status, shall:

(1) State whether the environmental impact statement has been found by the courts of the United States to be adequate or inadequate; and

(2) Identify any issues relating to the adequacy of the environmental impact statement that may remain subject to judicial review.

[54 FR 27870, July 3, 1989]

ENVIRONMENTAL REPORTS—RULEMAKING

§ 51.68 Environmental report—rulemaking.

Petitioners for rulemaking requesting amendments of parts 30, 31, 32, 33, 34, 35, 39, 40 or part 70 of this chapter concerning the exemption from licensing and regulatory requirements of or authorizing general licenses for any equipment, device, commodity or other product containing byproduct material, source material or special nuclear material shall submit with the petition the number of copies, as specified in § 51.69, of a separate document entitled "Petitioner's Environmental Report," which shall contain the information specified in § 51.45.

[49 FR 9381, Mar. 12, 1984, as amended at 52 FR 8241, Mar. 17, 1987]

§ 51.69 Environmental report—number of copies.

Petitioners for rulemaking covered by § 51.68 shall submit fifty (50) copies of an environmental report or any supplement to an environmental report.

ENVIRONMENTAL IMPACT STATEMENTS

DRAFT ENVIRONMENTAL IMPACT STATEMENTS—GENERAL REQUIREMENTS

§ 51.70 Draft environmental impact statement—general.

(a) The NRC staff will prepare a draft environmental impact statement as soon as practicable after publication of the notice of intent to prepare an environmental impact statement and completion of the scoping process. To the fullest extent practicable, environmental impact statements will be prepared concurrently or integrated with environmental impact analyses and related surveys and studies required by other Federal law.

(b) The draft environmental impact statement will be concise, clear and analytic, will be written in plain language with appropriate graphics, will state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of NEPA and of any other relevant and applicable environmental laws and policies, will identify any methodologies used and sources relied upon, and will be supported by evidence that the necessary environmental analyses have been made. The format provided in section 1(a) of appendix A of this subpart should be used. The NRC staff will independently evaluate and be responsible for the reliability of all information used in the draft environmental impact statement.

(c) The Commission will cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and State and local requirements, in accordance with 40 CFR 1506.2 (b) and (c).

§ 51.71 Draft environmental impact statement—contents.

(a) *Scope.* The draft environmental impact statement will be prepared in accordance with the scope decided upon in the scoping process required by §§ 51.26 and 51.29. As appropriate and to the extent required by the scope, the draft statement will address the topics in paragraphs (b), (c), (d) and (e) of this section and the matters specified in §§ 51.45, 51.50, 51.51, 51.52, 51.53, 51.54, 51.61 and 51.62.

(b) *Analysis of major points of view.* To the extent sufficient information is available, the draft environmental impact statement will include consideration of major points of view concerning the environmental impacts of the proposed action and the alternatives, and contain an analysis of significant problems and objections raised by other Federal, State, and local agencies, by any affected Indian tribes, and by other interested persons.

(c) *Status of compliance.* The draft environmental impact statement will list all Federal permits, licenses, approvals, and other entitlements which must be obtained in implementing the proposed action and will describe the status of compliance with those requirements. If it is uncertain whether a Federal permit, license, approval, or other entitlement is necessary, the draft environmental impact statement will so indicate.

(d) *Analysis.* The draft environmental impact statement will include a preliminary analysis which considers and balances the environmental and other effects of the proposed action and the alternatives available for reducing or avoiding adverse environmental and other effects, as well as the environmental, economic, technical and other benefits of the proposed action. The analysis will, to the fullest extent practicable, quantify the various factors considered. To the extent that there are important qualitative considerations or factors that cannot be quantified, these considerations or factors will be discussed in qualitative terms. The analysis will indicate what other interests and considerations of Federal policy, including factors not related to environmental quality, are thought to offset any adverse environmental effects of the proposed action identified pursuant to paragraph (a) of this section. Due consideration will be given to compliance with environmental quality standards and requirements which have been imposed by Federal, State, regional, and local agencies having responsibility for environmental protection, including applicable zoning and land-use regulations and water pollution limitations or requirements promulgated or imposed pursuant to the Federal Water Pollution Control Act. The environmental impact of the proposed action will be considered in the analysis with respect to matters covered by such standards and requirements irrespective of whether a certification or license from the appropriate authority has been obtained.[3] While satisfaction of Commission standards and criteria pertaining to radiological effects will be necessary to meet the licensing requirements of the Atomic Energy Act, the analysis will, for the purposes of NEPA, consider the radiological effects of the proposed action and alternatives.

(e) *Preliminary recommendation.* The draft environmental impact statement normally will include a preliminary recommendation by the NRC staff respecting the proposed action. This preliminary recommendation will be based on the information and analysis described in paragraphs (a) through (d) of this section and §§ 51.75, 51.76, 51.80 and 51.85, as appropriate, and will be reached after weighing the costs and benefits of the proposed action and considering reasonable alternatives. In lieu of a preliminary recommendation, the NRC staff may indicate in the draft statement that two or more alternatives remain under consideration.

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[3] Compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act (imposed by EPA or designated permitting states) is not a substitute for and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality, and to consider alternatives to the proposed action which are available for reducing adverse effects. Where an environmental assessment of aquatic impact from plant discharges is available from the permitting authority then the NRC will consider the assessment in its determination of the magnitude of environmental impacts for striking an overall cost-benefit balance. When no such assessment of aquatic impacts is available from the permitting authority, then NRC will establish on its own or in conjunction with the permitting authority and other agencies having relevant expertise the magnitude of potential impacts for striking an overall cost-benefit balance for the facility.

§ 51.72 Supplement to draft environmental impact statement.

(a) The NRC staff will prepare a supplement to a draft environmental impact statement for which a notice of availability has been published in the Federal Register as provided in § 51.117, if:

(1) There are substantial changes in the proposed action that are relevant to environmental concerns; or

(2) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

(b) The NRC staff may prepare a supplement to a draft environmental impact statement when, in its opinion, preparation of a supplement will further the purposes of NEPA.

(c) The supplement to a draft environmental impact statement will be prepared and noticed in the same manner as the draft environmental impact statement except that a scoping process need not be used.

§ 51.73 Request for comments on draft environmental impact statement.

Each draft environmental impact statement and each supplement to a draft environmental impact statement distributed in accordance with § 51.74, and each news release provided pursuant to § 51.74(d) will be accompanied by or include a request for comments on the proposed action and on the draft environmental impact statement or any supplement to the draft environmental impact statement and will state where comments should be submitted and the date on which the comment period closes. A minimum comment period of 45 days will be provided. The comment period will be calculated from the date on which the Environmental Protection Agency notice stating that the draft statement or the supplement to the draft statement has been filed with EPA is published in the Federal Register. If no comments are provided within the time specified, it will be presumed, unless the agency or person requests and extension of time, that the agency or person has no comment to make. To the extent practicable, NRC staff will grant reasonable requests for extensions of time of up to fifteen (15) days.

§ 51.74 Distribution of draft environmental impact statement and supplement to draft environmental impact statement; news releases.

(a) A copy of the draft environmental impact statement will be distributed to:

(1) The Environmental Protection Agency.

(2) Any other Federal agency which has special expertise or jurisdiction by law with respect to any environmental impact involved or which is authorized to develop and enforce relevant environmental standards.

(3) The applicant or petitioner for rulemaking and any other party to the proceeding.

(4) Appropriate State and local agencies authorized to develop and enforce relevant environmental standards.

(5) Appropriate State, regional and metropolitan clearinghouses.

(6) Appropriate Indian tribes when the proposed action may have an environmental impact on a reservation.

(7) Upon written request, any organization or group included in the master list of interested organizations and groups maintained under § 51.122.

(8) Upon written request, any other person to the extent available.

(b) Additional copies will be made available in accordance with § 51.123.

(c) A supplement to a draft environmental impact statement will be distributed in the same manner as the draft environmental impact statement to which it relates.

(d) News releases stating the availability for comment and place for obtaining or inspecting a draft environmental statement or supplement will be provided to local newspapers and other appropriate media.

(e) A notice of availability will be published in the Federal Register in accordance with § 51.117.

DRAFT ENVIRONMENTAL IMPACT STATEMENTS—PRODUCTION AND UTILIZATION FACILITIES

§ 51.75 Draft environmental impact statement—construction permit.

A draft environmental impact statement relating to issuance of a construction permit for a production or utilization facility will be prepared in accordance with the procedures and measures described in §§ 51.70, 51.71, 51.72 and 51.73. The contribution of the environmental effects of the uranium fuel cycle activities specified in § 51.51 shall be evaluated on the basis of impact values set forth in Table S-3, Table of Uranium Fuel Cycle Environmental Data, which shall be set out in the draft environmental impact statement. With the exception of radon-222 and technetium-99 releases, no further discussion of fuel cycle release values and other numerical data that appear explicity in the Table shall be required.[4] The impact statement shall take account of dose commitments and health effects from fuel cycle effluents set forth in Table S-3 and shall in addition take account of economic, socioeconomic, and possible cumulative impacts and such other fuel cycle impacts as may reasonably appear significant.

§ 51.76 Draft environmental impact statement—manufacturing license.

A draft environmental impact statement relating to issuance of a license to manufacture a nuclear power reactor will address the environmental matters specified in appendix M of part 52 of this chapter. The draft environmental impact statement will include a request for comments as provided in § 51.73.

[49 FR 9381, Mar. 12, 1984, as amended at 54 FR 15398, Apr. 18, 1989]

§ 51.77 Distribution of draft environmental impact statement.

(a) In addition to the distribution authorized by § 51.74, a copy of a draft environmental statement for a licensing action for a production or utilization facility, except an action authorizing issuance, amendment or renewal of a license to manufacture a nuclear power reactor pursuant to 10 CFR part 52, appendix M will also be distributed to:

(1) The chief executive of the municipality or county identified in the draft environmental impact statement as the preferred site for the proposed facility or activity.

(2) Upon request, the chief executive of each municipality or county identified in the draft environmental impact statement as an alternative site.

(b) Additional copies will be made available in accordance with § 51.123.

[49 FR 9381, Mar. 12, 1984, as amended at 54 FR 15398, Apr. 18, 1989]

DRAFT ENVIRONMENTAL IMPACT STATEMENTS—MATERIALS LICENSES

§ 51.80 Draft environmental impact statement—materials license.

(a) The NRC staff will either prepare a draft environmental impact statement or as provided in § 51.92, a supplement to a final environmental impact statement for each type of action identified in § 51.20(b) (7) through (12). Except as the context may otherwise require, procedures and measures similar to those described in §§ 51.70, 51.71, 51.72 and 51.73 will be followed.

(b)(1) *Independent spent fuel storage installation (ISFSI).* Unless otherwise determined by the Commission and in accordance with the generic determination in § 51.23(a) and the provisions of § 51.23(b), a draft environmental impact statement on the issuance of an initial license for storage of spent fuel at an independent spent fuel storage installation (ISFSI) or any amendment thereto, will address environmental impacts of spent fuel only for the term of the license or amendment applied for.

(2) *Monitored retrievable storage installation (MRS).* As provided in sec-

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[4] Values for releases of Rn-222 and Tc-99 are not given in the Table. The amount and significance of Rn-222 releases from the fuel cycle and Tc-99 releases from waste management or reprocessing activities shall be considered in the draft environmental impact statement and may be the subject of litigation in individual licensing proceedings.

tions 141 (c), (d), and (e) and 148 (a) and (c) of the Nuclear Waste Policy Act of 1982, as amended (NWPA) (96 Stat. 2242, 2243, 42 U.S.C. 10161 (c), (d), (e); 101 Stat. 1330-235, 1330-236, 42 U.S.C. 10168 (a) and (c)), a draft environmental impact statement for the construction of a monitored retrievable storage installation (MRS) will not address the need for the MRS or any alternative to the design criteria for an MRS set forth in section 141(b)(1) of the NWPA (96 Stat. 2242, 42 U.S.C. 10161(b)(1)) but may consider alternative facility designs which are consistent with these design criteria.

[49 FR 34695, Aug. 31, 1984, as amended at 53 FR 31682, Aug. 19, 1988]

§ 51.81 Distribution of draft environmental impact statement.

Copies of the draft environmental impact statement and any supplement to the draft environmental impact statement will be distributed in accordance with the provisions of § 51.74.

DRAFT ENVIRONMENTAL IMPACT STATEMENTS—RULEMAKING

§ 51.85 Draft environmental impact statement—rulemaking.

Except as the context may otherwise require, procedures and measures similar to those described in §§ 51.70, 51.71, 51.72 and 51.73 will be followed in proceedings for rulemaking for which the Commission has determined to prepare an environmental impact statement.

§ 51.86 Distribution of draft environmental impact statement.

Copies of the draft environmental impact statement and any supplement to the draft environmental impact statement will be distributed in accordance with the provisions of § 51.74.

LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENTS—PROPOSALS FOR LEGISLATION

§ 51.88 Proposals for legislation.

The Commission will, as a matter of policy, follow the provisions of 40 CFR 1506.8 regarding the NEPA process for proposals for legislation.

FINAL ENVIRONMENTAL IMPACT STATEMENTS—GENERAL REQUIREMENTS

§ 51.90 Final environmental impact statement—general.

After receipt and consideration of comments requested pursuant to §§ 51.73 and 51.117, the NRC staff will prepare a final environmental impact statement in accordance with the requirements in §§ 51.70(b) and 51.71 for a draft environmental impact statement. The format provided in section 1(a) of appendix A of this subpart should be used.

§ 51.91 Final environmental impact statement—contents.

(a)(1) The final environmental impact statement will include responses to any comments on the draft environmental impact statement or on any supplement to the draft environmental impact statement. Responses to comments may include:

(i) Modification of alternatives, including the proposed action;

(ii) Development and evaluation of alternatives not previously given serious consideration;

(iii) Supplementation or modification of analyses;

(iv) Factual corrections;

(v) Explanation of why comments do not warrant further response, citing sources, authorities or reasons which support this conclusion.

(2) All substantive comments received on the draft environmental impact statement or any supplement to the draft environmental impact statement (or summaries thereof where the response has been exceptionally voluminous) will be attached to the final statement, whether or not each comment is discussed individually in the text of the statement.

(3) If changes in the draft environmental impact statement in response to comments are minor and are confined either to factual corrections or to explanations of why the comments do not warrant further response, the changes may be made by attaching errata sheets to the draft statement. The entire document with a new cover

may then be issued as the final environmental impact statement.

(b) The final environmental impact statement will discuss any relevant responsible opposing view not adequately discussed in the draft environmental impact statement or in any supplement to the draft environmental impact statement, and respond to the issues raised.

(c) The final environmental impact statement will state how the alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of NEPA and of any other relevant and applicable environmental laws and policies.

(d) The final environmental impact statement will include a final analysis and a final recommendation on the action to be taken.

§ 51.92 Supplement to the final environmental impact statement.

(a) If the proposed action has not been taken, the NRC staff will prepare a supplement to a final environmental impact statement for which a notice of availability has been published in the FEDERAL REGISTER as provided in § 51.118, if:

(1) There are substantial changes in the proposed action that are relevant to environmental concerns; or

(2) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

(b) The NRC staff may prepare a supplement to a final environmental impact statement when, in its opinion, preparation of a supplement will further the purposes of NEPA.

(c) The supplement to a final environmental impact statement will be prepared in the same manner as the final environmental impact statement except that a scoping process need not be used.

(d)(1) A supplement to a final environmental impact statement will be accompanied by or will include a request for comments as provided in § 51.73 and a notice of availability will be published in the FEDERAL REGISTER as provided in § 51.117 if the conditions described in paragraph (a) of this section apply.

(2) If comments are not requested, notice of availability of a supplemen to a final environmental impact state ment will be published in the FEDERA REGISTER as provided in § 51.118.

§ 51.93 Distribution of final environmen tal impact statement and supplement t final environmental impact statemen news releases.

(a) A copy of the final environmen tal impact statement will be distribut ed to:

(1) The Environmental Protectio Agency.

(2) The applicant or petitioner fo rulemaking and any other party to th proceeding.

(3) Appropriate State, regional an metropolitan clearinghouses.

(4) Each commenter.

(b) Additional copies will be mad available in accordance with § 51.123.

(c) If the final environmental impac statement is unusually long or ther are so many comments on a draft envi ronmental impact statement or an supplement to a draft environmenta impact statement that distribution o the entire final statement to all com menters is impracticable, a summar of the final statement and the sub stantive comments will be distribute When the final environmental impac statement has been prepared b adding errata sheets to the draft envi ronmental impact statement as provid ed in § 51.91(a)(3), only the comment the responses to the comments an the changes to the environmenta impact statement will be distributed.

(d) A supplement to a final enviror mental impact statement will be di tributed in the same manner as th final environmental impact statemer to which it relates.

(e) News releases stating the avai ability and place for obtaining or i specting a final environmental impac statement or supplement will be pr vided to local newspapers and othe appropriate media.

(f) A notice of availability will b published in the FEDERAL REGISTER accordance with § 51.118.

§ 51.94 Requirement to consider final environmental impact statement.

The final environmental impact statement, together with any comments and any supplement, will accompany the application or petition for rulemaking through, and be considered in, the Commission's decisionmaking process. The final environmental impact statement, together with any comments and any supplement, will be made a part of the record of the appropriate adjudicatory or rulemaking proceeding.

FINAL ENVIRONMENTAL IMPACT STATEMENTS—PRODUCTION AND UTILIZATION FACILITIES

§ 51.95 Supplement to final environmental impact statement.

(a) *Operating license stage.* In connection with the issuance of an operating license for a production or utilization facility, the NRC staff will prepare a supplement to the final environmental impact statement on the construction permit for that facility, which will update the prior environmental review. The supplement may incorporate by reference any information contained in the final environmental impact statement or in the record of decision prepared in connection with the construction permit for that facility. The supplement will include a request for comments as provided in § 51.73. The supplement will only cover matters which differ from, or which reflect significant new information concerning matters discussed in the final environmental impact statement. Unless otherwise determined by the Commission, a supplement on the operation of a nuclear power reactor will not include discussion of need for power or alternative energy sources or alternative sites or of any aspect of the storage of spent fuel for the nuclear power reactor within the scope of the generic determination in § 51.23(a) and in accordance with § 51.23(b), and will only be prepared in connection with the first licensing action authorizing full power operation.

(b) *Post operating license stage.* In connection with the amendment of an operating license to authorize the decommissioning of a production or utilization facility covered by § 51.20 or with the issuance, amendment or renewal of a license to store spent fuel at a nuclear power reactor after expiration of the operating license for the nuclear power reactor, the NRC staff will prepare a supplemental environmental impact statement for the post operating license stage or an environmental assessment, as appropriate, which will update the prior environmental review. The supplement or assessment may incorporate by reference any information contained in the final environmental impact statement, the supplement to the final environmental impact statement—operating license stage, or in the records of decision prepared in connection with the construction permit or the operating license for that facility. The supplement will include a request for comments as provided in § 51.73. Unless otherwise required by the Commission, in accordance with the generic determination in § 51.23(a) and the provisions of § 51.23(b), a supplemental environmental impact statement for the post operating license stage or an environmental assessment, as appropriate, will address the environmental impacts of spent fuel storage only for the term of the license, license amendment or license renewal applied for.

[49 FR 34695, Aug. 31, 1984, as amended at 53 FR 24052, June 27, 1988]

FINAL ENVIRONMENTAL IMPACT STATEMENTS—MATERIALS LICENSES

§ 51.97 Final environmental impact statement—materials license.

(a) *Independent spent fuel storage installation (ISFSI).* Unless otherwise determined by the Commission, and in accordance with the generic determination in § 51.23(a) and the provisions of § 51.23(b), a final environmental impact statement on the issuance of an initial license for the storage of spent fuel at an independent spent fuel storage installation (ISFSI) or any amendment thereto, will address environmental impacts of spent fuel storage only for the term of the license or amendment applied for.

(b) ***Monitored retrievable storage facility (MRS).*** As provided in sections 141 (c), (d), and (e) and 148 (a) and (c) of the Nuclear Waste Policy Act of 1982, as amended (NWPA) (96 Stat. 2242, 2243, 42 U.S.C. 10161 (c), (d), (e); 101 Stat. 1330-235, 1330-236, 42 U.S.C. 10168 (a), (c)) a final environmental impact statement for the construction of a monitored retrievable storage installation (MRS) will not address the need for the MRS or any alternative to the design criteria for an MRS set forth in section 141(b)(1) of the NWPA (96 Stat. 2242, 42 U.S.C. 10161(b)(1)) but may consider alternative facility designs which are consistent with these design criteria.

[49 FR 34695, Aug. 31, 1984, as amended at 53 FR 31682, Aug. 19, 1988]

FINAL ENVIRONMENTAL IMPACT STATEMENTS—RULEMAKING

§ 51.99 [Reserved]

NEPA PROCEDURE AND ADMINISTRATIVE ACTION

GENERAL

§ 51.100 Timing of Commission action.

(a)(1) Except as provided in § 51.13 and paragraph (b) of this section, no decision on a proposed action, including the issuance of a permit, license, or other form of permission, or amendment to or renewal of a permit, license, or other form of permission, or the issuance of an effective regulation, for which an environmental impact statement is required, will be made and no record of decision will be issued until the later of the following dates:

(i) Ninety (90) days after publication by the Environmental Protection Agency of a FEDERAL REGISTER notice stating that the draft environmental impact statement has been filed with EPA.

(ii) Thirty (30) days after publication by the Environmental Protection Agency of a FEDERAL REGISTER notice stating that the final environmental impact statement has been filed with EPA.

(2) If a notice of filing of a final environmental impact statement is published by the Environmental Protection Agency within ninety (90) days after a notice of filing of a draft environmental impact statement has been published by EPA, the minimum thirty (30) day period and the minimum ninety (90) day period may run concurrently to the extent they overlap.

(b) In any rulemaking proceeding for the purpose of protecting the public health or safety or the common defense and security, the Commission may make and publish the decision on the final rule at the same time that the Environmental Protection Agency publishes the FEDERAL REGISTER notice of filing of the final environmental impact statement.

§ 51.101 Limitations on actions.

(a) Until a record of decision is issued in connection with a proposed licensing or regulatory action for which an environmental impact statement is required under § 51.20, or until a final finding of no significant impact is issued in connection with a proposed licensing or regulatory action for which an environmental assessment is required under § 51.21:

(1) No action concering the proposal may be taken by the Commission which would (i) have an adverse environmental impact, or (ii) limit the choice of reasonable alternatives.

(2) Any action concerning the proposal taken by an applicant which would (i) have an adverse environmental impact, or (ii) limit the choice of reasonable alternatives may be grounds for denial of the license. In the case of an application covered by §§ 30.32(f), 40.31(f), 50.10(c), 70.21(f), or §§ 72.16 and 72.34 of this chapter, the provisions of this paragraph will be applied in accordance with §§ 30.33(a)(5), 40.32(e), 50.10 (c) and (e), 70.23(a)(7) or § 72.40(b) of this chapter, as appropriate.

(b) While work on a required program environmental impact statement is in progress, the Commission will not undertake in the interim any major Federal action covered by the program which may significantly affect the quality of the human environment unless such action:

(1) Is justified independently of the program;

(2) Is itself accompanied by an adequate environmental impact statement; and

(3) Will not prejudice the ultimate decision on the program. Absent any satisfactory explanation to the contrary, interim action which tends to determine subsequent development or limit reasonable alternatives, will be considered prejudicial.

(c) This section does not preclude any applicant for an NRC permit, license, or other form of permission, or amendment to or renewal of an NRC permit, license, or other form of permission, (1) from developing any plans or designs necessary to support an application; or (2) after prior notice and consultation with NRC staff, (i) from performing any physical work necessary to support an application, or (ii) from performing any other physical work relating to the proposed action if the adverse environmental impact of that work is de minimis.

[49 FR 9381, Mar. 12, 1984, as amended at 53 FR 31682, Aug. 19, 1988]

§ 51.102 Requirement to provide a record of decision; preparation.

(a) A Commission decision on any action for which a final environmental impact statement has been prepared shall be accompanied by or include a concise public record of decision.

(b) Except as provided in paragraph (c) of this section, the record of decision will be prepared by the NRC staff director authorized to take the action.

(c) When a hearing is held on the proposed action under the regulations in subpart G of part 2 of this chapter or when the action can only be taken by the Commissioners acting as a collegial body, the initial decision of the presiding officer or the final decision of the Atomic Safety and Licensing Appeal Board or the final decision of the Commissioners acting as a collegial body will constitute the record of decision. An initial or final decision constituting the record of decision will be distributed as provided in § 51.93.

§ 51.103 Record of decision—general.

(a) The record of decision required by § 51.102 shall be clearly identified and shall:

(1) State the decision.

(2) Identify all alternatives considered by the Commission in reaching the decision, state that these alternatives were included in the range of alternatives discussed in the environmental impact statement, and specify the alternative or alternatives which were considered to be environmentally preferable.

(3) Discuss preferences among alternatives based on relevant factors, including economic and technical considerations, the NRC's statutory mission, and any essential considerations of national policy, which were balanced by the Commission in making the decision and state how these considerations entered into the decision.

(4) State whether the Commission has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the alternative selected, and if not, to explain why those measures were not adopted. Summarize any license conditions and monitoring programs adopted in connection with mitigation measures.

(b) The record of decision may be integrated into any other record prepared by the Commission in connection with the action.

(c) The record of decision may incorporate by reference material contained in a final environmental impact statement.

§ 51.104 NRC proceeding using public hearings; consideration of environmental impact statement.

(a)(1) In any proceeding in which (i) a hearing is held on the proposed action, (ii) a final environmental impact statement has been prepared in connection with the proposed action, and (iii) matters within the scope of NEPA and this subpart are in issue, the NRC staff may not offer the final environmental impact statement in evidence or present the position of the NRC staff on matters within the scope of NEPA and this subpart until the final environmental impact statement is filed with the Environmental Protection Agency, furnished to commenting agencies and made available to the public.

(2) Any party to the proceeding may take a position and offer evidence on the aspects of the proposed action within the scope of NEPA and this subpart in accordance with the provisions of part 2 of this chapter applicable to that proceeding or in accordance with the terms of the notice of hearing.

(3) In the proceeding the presiding officer will decide those matters in controversy among the parties within the scope of NEPA and this subpart.

(b) In any proceeding in which a hearing is held where the NRC staff has determined that no environmental impact statement need be prepared for the proposed action, unless the Commission orders otherwise, any party to the proceeding may take a position and offer evidence on the aspects of the proposed action within the scope of NEPA and this subpart in accordance with the provisions of part 2 of this chapter applicable to that proceeding or in accordance with the terms of the notice of hearing. In the proceeding, the presiding officer will decide any such matters in controversy among the parties.

PRODUCTION AND UTILIZATION FACILITIES

§ 51.105 Public hearings in proceedings for issuance of construction permits or licenses to manufacture.

(a) In addition to complying with applicable requirements of § 51.104, in a proceeding for the issuance of a construction permit for a nuclear power reactor, testing facility, fuel reprocessing plant or isotopic enrichment plant, or for the issuance of a license to manufacture, the presiding officer will:

(1) Determine whether the requirements of section 102(2) (A), (C), and (E) of NEPA and the regulations in this subpart have been met;

(2) Independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken;

(3) Determine, after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, whether the construction permit or license to manufacture should be issued, denied, or appropriately conditioned to protect environmental values;

(4) Determine, in an uncontested proceeding, whether the NEPA review conducted by the NRC staff has been adequate; and

(5) Determine, in a contested proceeding, whether in accordance with the regulations in this subpart, the construction permit or license to manufacture should be issued as proposed.

§ 51.106 Public hearings in proceedings for issuance of operating licenses.

(a) Consistent with the requirements of this section and as appropriate, the presiding officer in an operating license hearing shall comply with any applicable requirements of §§ 51.104 and 51.105.

(b) During the course of a hearing on an application for issuance of an operating license for a nuclear power reactor, or a testing facility, the presiding officer may authorize, pursuant to § 50.57(c) of this chapter, the loading of nuclear fuel in the reactor core and limited operation within the scope of § 50.57(c) of this chapter, upon compliance with the procedures described therein. In any such hearing, where any party opposes such authorization on the basis of matters covered by subpart A of this part, the provisions of §§ 51.104 and 51.105 will apply, as appropriate.

(c) The presiding officer in an operating license hearing shall not admit contentions proffered by any party concerning need for power or alternative energy sources or alternative sites for the facility for which an operating license is requested.

(d) The presiding officer in an operating license hearing shall not raise issues concerning alternative sites for the facility for which an operating license is requested *sua sponte*.

MATERIALS LICENSES

§ 51.108 [Reserved]

§ 51.109 Public hearings in proceedings for issuance of materials license with respect to a geologic repository.

(a)(1) In a proceeding for the issuance of a license to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area, the NRC staff shall, upon the publication of the notice of hearing in the Federal Register, present its position on whether it is practicable to adopt, without further supplementation, the environmental impact statement (including any supplement thereto) prepared by the Secretary of Energy. If the position of the staff is that supplementation of the environmental impact statement by NRC is required, it shall file its final supplemental environmental impact statement with the Environmental Protection Agency, furnish that statement to commenting agencies, and make it available to the public, before presenting its position, or as soon thereafter as may be practicable. In discharging its responsibilities under this paragraph, the staff shall be guided by the principles set forth in paragraphs (c) and (d) of this section.

(2) Any other party to the proceeding who contends that it is not practicable to adopt the DOE environmental impact statement, as it may have been supplemented, shall file a contention to that effect within thirty days after the publication of the notice of hearing in the Federal Register. Such contention must be accompanied by one or more affidavits which set forth factual and/or technical bases for the claim that, under the principles set forth in paragraphs (c) and (d) of this section, it is not practicable to adopt the DOE environmental impact statement, as it may have been supplemented. The presiding officer shall resolve disputes concerning adoption of the DOE environmental impact statement by using, to the extent possible, the criteria and procedures that are followed in ruling on motions to reopen under § 2.734 of this chapter.

(b) In any such proceeding, the presiding officer will determine those matters in controversy among the parties within the scope of NEPA and this subpart, specifically including whether, and to what extent, it is practicable to adopt the environmental impact statement prepared by the Secretary of Energy in connection with the issuance of a construction authorization and license for such repository.

(c) The presiding officer will find that it is practicable to adopt any environmental impact statement prepared by the Secretary of Energy in connection with a geologic repository proposed to be constructed under Title I of the Nuclear Waste Policy Act of 1982, as amended, unless:

(1)(i) The action proposed to be taken by the Commission differs from the action proposed in the license application submitted by the Secretary of Energy; and

(ii) The difference may significantly affect the quality of the human environment; or

(2) Significant and substantial new information or new considerations render such environmental impact statement inadequate.

(d) To the extent that the presiding officer determines it to be practicable, in accordance with paragraph (c) of this section, to adopt the environmental impact statement prepared by the Secretary of Energy, such adoption shall be deemed to satisfy all responsibilities of the Commission under NEPA and no further consideration under NEPA or this subpart shall be required.

(e) To the extent that it is not practicable, in accordance with paragraph (c) of this section, to adopt the environmental impact statement prepared by the Secretary of Energy, the presiding officer will:

(1) Determine whether the requirements of section 102(2) (A), (C), and (E) of NEPA and the regulations in this subpart have been met;

(2) Independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken;

(3) Determine, after weighing the environmental, economic, technical and other benefits against environmental and other costs, whether the construction authorization or license should be issued, denied, or appropriately conditioned to protect environmental values;

(4) Determine, in an uncontested proceeding, whether the NEPA review conducted by the NRC staff has been adequate; and

(5) Determine, in a contested proceeding, whether in accordance with the regulations in this subpart, the construction authorization or license should be issued as proposed.

(f) In making the determinations described in paragraph (e), the environmental impact statement will be deemed modified to the extent that findings and conclusions differ from those in the final statement prepared by the Secretary of Energy, as it may have been supplemented. The initial decision will be distributed to any persons not otherwise entitled to receive it who responded to the request in the notice of docketing, as described in § 51.26(c). If the Commission or the Atomic Safety and Licensing Appeal Board reaches conclusions different from those of the presiding officer with respect to such matters, the final environmental impact statement will be deemed modified to that extent and the decision will be similarly distributed.

(g) The provisions of this section shall be followed, in place of those set out in § 51.104, in any proceedings for the issuance of a license to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area.

[54 FR 27870, July 3, 1989]

RULEMAKING

§ 51.110 [Reserved]

PUBLIC NOTICE OF AND ACCESS TO ENVIRONMENTAL DOCUMENTS

§ 51.116 Notice of intent.

(a) In accordance with § 51.26, the appropriate NRC staff director will publish in the FEDERAL REGISTER a notice of intent stating that an environmental impact statement will be prepared. The notice will contain the information specified in § 51.27.

(b) Copies of the notice will be sent to appropriate Federal, State, and local agencies, and Indian tribes, appropriate State, regional, and metropolitan clearinghouses and to interested persons upon request. A public announcement of the notice of intent will also be made.

§ 51.117 Draft environmental impact statement—notice of availability.

(a) Upon completion of a draft environmental impact statement or any supplement to a draft environmental impact statement, the appropriate NRC staff director will publish a notice of availability of the statement in the FEDERAL REGISTER.

(b) The notice will request comments on the proposed action and on the draft statement or any supplement to the draft statement and will specify where comments should be submitted and when the comment period expires.

(c) The notice will (1) state that copies of the draft statement or any supplement to the draft statement are available for public inspection; (2) state where inspection may be made, and (3) state that any comments of Federal, State, and local agencies, Indian tribes or other interested persons will be made available for public inspection when received.

(d) Copies of the notice will be sent to appropriate Federal, State, and local agencies, and Indian tribes, appropriate State, regional, and metropolitan clearinghouses, and to interested persons upon request.

§ 51.118 Final environmental impact statement—notice of availability.

(a) Upon completion of a final environmental impact statement or any supplement to a final environmental impact statement, the appropriate NRC staff director will publish a notice of availability of the statement in the FEDERAL REGISTER. The notice will state that copies of the final statement or any supplement to the final statement are available for public inspection and where inspection may be made. Copies of the notice will be sent to appropriate Federal, State, and local agencies, and Indian tribes, appropriate State, regional, and metropolitan clearinghouses and to interested persons upon request.

(b) Upon adoption of a final environmental impact statement or any supplement to a final environmental impact statement prepared by the Department of Energy with respect to a geologic repository that is subject to the Nuclear Waste Policy Act of 1982, the appropriate NRC staff director shall follow the procedures set out in paragraph (a) of this section.

[49 FR 9381, Mar. 12, 1984, as amended at 54 FR 27871, July 3, 1989]

§ 51.119 Publication of finding of no significant impact; distribution.

(a) As required by § 51.35, the appropriate NRC staff director will publish the finding of no significant impact in the FEDERAL REGISTER. The finding of no significant impact will be identified as a draft or final finding, and will contain the information specified in §§ 51.32 or 51.33, as appropriate. A draft finding of no significant impact will include a request for comments which specifies where comments should be submitted and when the comment period expires.

(b) The finding will state that copies of the finding, the environmental assessment setting forth the basis for the finding and any related environmental documents are available for public inspection and where inspection may be made.

(c) A copy of a final finding will be sent to appropriate Federal, State, and local agencies, and Indian tribes, appropriate State, regional, and metropolitan clearinghouses, the applicant or petitioner for rulemaking and any other party to the proceeding, and if a draft finding was issued, to each commenter. Additional copies will be made available in accordance with § 51.123.

§ 51.120 Availability of environmental documents for public inspection.

Copies of environmental reports, draft and final environmental impact statements, environmental assessments, and findings of no significant impact, together with any related comments and environmental documents, will be placed in the NRC's Public Document Room at 2120 L Street NW., Washington, DC, and in any public document room established by the Commission in the vicinity of the site of the proposed facility or licensed activity where a file of documents pertaining to such proposed facility or activity is maintained.

[49 FR 9381, Mar. 12, 1984, as amended at 53 FR 43421, Oct. 27, 1988]

§ 51.121 Status of NEPA actions.

Individuals or organizations desiring information on the NRC's NEPA process or on the status of specific NEPA actions should address inquiries to:

(a) *Utilization facilities:* Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone (301) 492-1270.

(b) *Production facilities:* Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-3352.

(c) *Materials licenses:* Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-3352.

(d) *Rulemaking:* Director, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-3700.

(e) *General Environmental Matters:* Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-1700.

[53 FR 13399, Apr. 25, 1988]

§ 51.122 List of interested organizations and groups.

The NRC Office of Information Resources Management will maintain a master list of organizations and groups, including relevant conservation commissions, known to be interested in the Commission's licensing and regulatory activities. The NRC Office of Information Resources Management with the assistance of the appropriate NRC staff director will select from this master list those organizations and groups that may have an interest in a specific NRC NEPA action and will promptly notify such organizations and groups of the availability of a draft environmental impact statement or a draft finding of no significant impact.

[49 FR 9381, Mar. 12, 1984, as amended at 52 FR 31612, Aug. 12, 1987; 54 FR 53316, Dec. 28, 1989]

§ 51.123 Charges for environmental documents; distribution to public; distribution to governmental agencies.

(a) *Distribution to public.* Upon written request to the Director, Division of Information Support Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the extent available, single copies of draft environmental impact statements and draft findings of no significant impact will be made available to interested persons without charge. Single copies of final environmental impact statements and final findings of no significant impact will also be provided without charge to the persons listed in §§ 51.93(a) and 51.119(c), respectively. When more than one copy of an environmental impact statement or a finding of no significant impact is requested or when available NRC copies have been exhausted, the requestor will be advised that the NRC will provide copies at the charges specified in § 9.14 of this chapter.

(b) *Distribution to governmental agencies.* Upon written request to the Director, Division of Information Support Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the extent available, copies of draft and final environmental impact statements and draft final findings of no significant impact will be made available in the number requested to Federal, State and local agencies, Indian tribes, and State, regional and metropolitan clearinghouses. When available NRC copies have been exhausted, the requester will be advised that the NRC will provide copies at the charges specified in §9.14 of this chapter.

(c) *Charges.* Charges for the reproduction of environmental documents by the NRC at locations other than the NRC Public Document Room located in Washington, DC vary according to location.

[50 FR 21037, May 22, 1985, as amended at 52 FR 31612, Aug. 21, 1987; 53 FR 43421, Oct. 27, 1988]

COMMENTING

§ 51.124 Commission duty to comment.

It is the policy of the Commission to comment on draft environmental impact statements prepared by other Federal agencies, consistent with the provisions of 40 CFR 1503.2 and 1503.3.

RESPONSIBLE OFFICIAL

§ 51.125 Responsible official.

The Executive Director for Operations shall be responsible for overall review of NRC NEPA compliance, except for matters under the jurisdiction of a presiding officer, administrative judge, administrative law judge, Atomic Safety and Licensing Board, Atomic Safety and Licensing Appeal Board, or the Commission acting as a collegial body.

APPENDIX A TO SUBPART A—FORMAT FOR PRESENTATION OF MATERIAL IN ENVIRONMENTAL IMPACT STATEMENTS

1. General
2. Cover sheet
3. Summary
4. Purpose of and need for action
5. Alternatives including the proposed action
6. Affected environment
7. Environmental consequences and mitigating actions
8. List of preparers
9. Appendices

1. *General.*

(a) The Commission will use a format for environmental impact statements which will encourage good analysis and clear presentation of the alternatives including the proposed action. The following standard format for environmental impact statements should be followed unless there is a compelling reason to do otherwise:

(1) Cover sheet*
(2) Summary*
(3) Table of Contents
(4) Purpose of and Need for Action*
(5) Alternatives including the proposed action*
(6) Affected Environment*
(7) Environmental Consequences and Mitigating Actions*
(8) List of Preparers*
(9) List of Agencies, Organizations and Persons to Whom Copies of the Statement are Sent
(10) Substantive Comments Received and NRC Staff Responses
(11) Index
(12) Appendices (if any)*

If a different format is used, it shall include paragraphs (1), (2), (3), (8), (9), (10), and (11) of this section and shall include the substance of paragraphs (4), (5), (6), (7), and (12) of this section, in any appropriate format.

Additional guidance on the presentation of material under the format headings identified by an asterisk is set out in sections 2.-9. of this appendix.

(b) The techniques of tiering and incorporation by reference described respectively in 40 CFR 1502.20 and 1508.28 and 40 CFR 1502.21 [5] of CEQ's NEPA regulations may be used as appropriate to aid in the presentation of issues, eliminate repetition or reduce the size of an environmental impact statement. In appropriate circumstances, draft or final environmental impact statements prepared by other Federal agencies may be adopted in whole or in part in accordance with the procedures outlined in 40 CFR 1506.3 [6] of CEQ's NEPA regulations. In final environmental impact statements, material under the following format headings will normally be presented in less than 150 pages: Purpose of and Need for Action, Alternatives Including the Proposed Action, Affected Environment, and Environmental Consequences and Mitigating Actions. For proposals of unusual scope or complexity, the material presented under these format headings may extend to 300 pages.

2. *Cover sheet.*

The cover sheet will not exceed one page. It will include:

(a) The name of the NRC office responsible for preparing the statement and a list of any cooperating agencies.

(b) The title of the proposed action that is the subject of the statement with a list of the states, counties or municipalities where the facility or other subject of the action is located, as appropriate.

(c) The name, address, and telephone number of the individual in NRC who can supply further information.

(d) A designation of the statement as a draft or final statement, or a draft or final supplement.

(e) A one paragraph abstract of the statement.

(f) For draft environmental impact statements, the date by which comments must be received. This date may be specified in the form of the following or a substantially similar statement:

"Comments should be filed no later than [7] days after the date on which the Environmental Protection Agency notice stating that the draft environmental impact statement has been filed with EPA is published in the FEDERAL REGISTER. Comments received after the expiration of the comment period will be considered if it is practical to do so but assurance of consideration of late comments cannot be given."

3. *Summary.*

Each environmental impact statement will contain a summary which adequately and accurately summarizes the statement. The summary will stress the major issues considered. The summary will discuss the areas of controversy, will identify any remaining issues to be resolved, and will present the major conclusions and recommendations. The summary will normally not exceed 15 pages.

4. *Purpose of and need for action.*

The statement will briefly describe and specify the purpose of the need for the proposed action. The alternative of no action will be discussed. In the case of nuclear power plants, consideration will be given to the potential impact of conservation measures in determining the demand for power and consequent need for additional generating capacity.

5. *Alternatives including the proposed action.*

This section is the heart of the environmental impact statement. It will present the environmental impacts of the proposal and the alternatives in comparative form. Where important to the comparative evaluation of alternatives, appropriate mitigating measures of the alternatives will be discussed. All reasonable alternatives will be identified. The range of alternatives discussed will encompass those proposed to be considered by the ultimate decisionmaker. An otherwise reasonable alternative will not be excluded from discussion solely on the ground that it is not within the jurisdiction of the NRC.[8] The discussion of alternatives will take into accounts, without duplicating, the environmental information and analyses included in sections, 4., 6. and 7. of this appendix.

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[5] *Tiering*—40 CFR 1502.20, 40 CFR 1508.28; *Incorporation by reference*—40 CFR 1502.21.

[6] *Adoption*—40 CFR 1506.3.

[7] The number of days in the comment period should be inserted. The minimum comment period is 45 days (see § 51.73.)

[8] With respect to limitations on NRC's NEPA authority and responsibility imposed by the Federal Water Pollution Control Act Amendments of 1972, see §§ 51.10(c), 51.22(c)(17) and 51.71(d).

In the draft environmental impact statement, this section will either include a preliminary recommendation on the action to be taken, or identify the alternatives under consideration.

In the final environmental impact statement, this section will include a final recommendation on the action to be taken.

6. *Affected environment.*

The environmental impact statement will succinctly describe the environment to be affected by the proposed action. Data and analyses in the statement will be commensurate with the importance of the impact, with less important material summarized, conolidated, or simply referenced. Effort and attention will be concentrated on important issues; useless bulk will be eliminated.

7. *Environmental consequences and mitigating actions.*

This section discusses the environmental consequences of alternatives, including the proposed actions and any mitigating actions which may be taken. Alternatives eliminated from detailed study will be identified and a discussion of those alternatives will be confined to a brief statement of the reasons why the alternatives were eliminated. The level of information for each alternative considered in detail will reflect the depth of analysis required for sound decisionmaking.

The discussion will include any adverse environmental effects which cannot be avoided should the alternative be implemented, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the alternative should it be implemented. This section will include discussions of:

(a) Direct effects and their significance.

(b) Indirect effects and their significance.

(c) Possible conflicts between the alternative and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.

(d) Means to mitigate adverse environmental impacts.

8. *List of preparers.*

The environmental impact statement will list the names and qualifications (expertise, experience, professional disciplines), of the persons who were primarily responsible for preparing the environmental impact statement or significant background papers. Persons responsible for making an independent evaluation of information submitted by the applicant or petitioner for rulemaking or others will be included in the list. Where possible, the persons who are responsible for a particular analysis, including analyses in background papers, will be identified.

9. *Appendices.*

An appendix to an environmental impact statement will:

(a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is incorporated by reference (40 CFR 1502.21)).

(b) Normally consist of material which substantiates any analysis fundamental to the impact statement. Discussion of methodology used may be placed in an appendix.

(c) Normally be analytic.

(d) Be relevant to the decision to be made.

(e) Be circulated with the environmental impact statement or be readily available on request.

Discussion of Footnotes

5. *Tiering.*

40 CFR 1502.20 states:

"Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (§ 1508.28). Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action. The subsequent document shall state where the earlier document is available. Tiering may also be appropriate for different stages of actions. (Sec. 1508.28)."

40 CFR 1508.28 states:

" 'Tiering' refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is:

"(a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.

"(b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe."

Incorporation by reference. 40 CFR 1502.21 states:

"Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference."

6. *Adoption.*

40 CFR 1506.3 states:

"(a) An agency may adopt a Federal draft or final environmental impact statement or portion thereof provided that the statement or portion thereof meets the standards for an adequate statement under these regulations.

"(b) If the actions covered by the original environmental impact statement and the proposed action are substantially the same, the agency adopting another agency's statement is not required to recirculate it except as a final statement. Otherwise the adopting agency shall treat the statement as a draft and recirculate it (except as provided in paragraph (c) of this section).

"(c) A cooperating agency may adopt without recirculating the environmental impact statement of a lead agency when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied.

"(d) When an agency adopts a statement which is not final within the agency that prepared it, or when the action it assesses is the subject of a referral under part 1504, or when the statement's adequacy is the subject of a judicial action which is not final, the agency shall so specify."

PART 52—EARLY SITE PERMITS; STANDARD DESIGN CERTIFICATIONS; AND COMBINED LICENSES FOR NUCLEAR POWER PLANTS

GENERAL PROVISIONS

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52.3 Definitions.
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52.99 Inspection during construction.
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Appendices A-L to Part 52—[Reserved]
Appendix M to Part 52—Standardization of Design; Manufacture of Nuclear Power Reactors; Construction and Operation of Nuclear Power Reactors Manufactured Pursuant to Commission License
Appendix N to Part 52—Standardization of Nuclear Power Plant Designs: Licenses to Construct and Operate Nuclear Power Reactors of Duplicate Design at Multiple Sites
Appendix O to Part 52—Standardization of Design: Staff Review of Standard Designs
Appendix P to Part 52—[Reserved]
Appendix Q to Part 52—Pre-Application Early Review of Site Suitability Issues

Authority: Secs. 103, 104, 161, 182, 183, 186, 189, 68 Stat. 936, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2133, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, 202, 206, 88 Stat. 1242, 1244, 1246, 1246, as amended (42 U.S.C. 5841, 5842, 5846).

Source: 54 FR 15386, Apr. 18, 1989, unless otherwise noted.

General Provisions

§ 52.1 Scope.

This part governs the issuance of early site permits, standard design certifications, and combined licenses for nuclear power facilities licensed under section 103 or 104b of the Atomic Energy Act of 1954, as amended (68 Stat. 919), and Title II of the Energy Reorganization Act of 1974 (88 Stat. 1242).

§ 52.3 Definitions.

As used in this part,

(a) *Combined license* means a combined construction permit and operating license with conditions for a nuclear power facility issued pursuant to subpart C of this part.

(b) *Early site permit* means a Commission approval, issued pursuant to subpart A of this part, for a site or sites for one or more nuclear power facilities.

(c) *Standard design* means a design which is sufficiently detailed and complete to support certification in accordance with subpart B of this part, and which is usable for a multiple number of units or at a multiple number of sites without reopening or repeating the review.

(d) *Standard design certification*, *design certification*, or *certification* means a Commission approval, issued pursuant to subpart B of this part, of a standard design for a nuclear power facility. A design so approved may be referred to as a *certified standard design*.

(e) All other terms in this part have the meaning set out in 10 CFR 50.2, or section 11 of the Atomic Energy Act, as applicable.

§ 52.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 52.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501, *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150(b).

(b) The approved information collection requirements contained in this part appear in §§ 52.15, 52.17, 52.29, 52.45, 52.47, 52.57, 52.75, 52.77, and 52.79.

Subpart A—Early Site Permits

§ 52.11 Scope of subpart.

This subpart sets out the requirements and procedures applicable to Commission issuance of early site permits for approval of a site or sites for one or more nuclear power facilities separate from the filing of an application for a construction permit or combined license for such a facility.

§ 52.13 Relationship to subpart F of 10 CFR part 2 and appendix Q of this part.

The procedures of this subpart do not replace those set out in subpart F of 10 CFR part 2 or appendix Q of this part. Subpart F applies only when early review of site suitability issues is sought in connection with an application for a permit to construct certain power facilities. Appendix Q applies only when NRC staff review of one or more site suitability issues is sought separately from and prior to the submittal of a construction permit. A Staff Site Report issued under appendix Q in no way affects the authority of the Commission or the presiding officer in any proceeding under subpart F or G of 10 CFR part 2. Subpart A applies when any person who may apply for a construction permit under 10 CFR part 50 or for a combined license under 10 CFR part 52 seeks an early site permit from the Commission separately from an application for a construction permit or a combined license for a facility.

§ 52.15 Filing of applications.

(a) Any person who may apply for a construction permit under 10 CFR part 50, or for a combined license under 10 CFR part 52, may file with the Director of Nuclear Reactor Regulation an application for an early site permit. An application for an early site permit may be filed notwithstanding the fact that an application for a construction permit or a combined license has not been filed in connection with the site or sites for which a permit is sought.

(b) The application must comply with the filing requirements of 10 CFR 50.30 (a), (b), and (f) as they would apply to an application for a construction permit. The following portions of § 50.4, which is referenced by § 50.30(a)(1), are applicable: paragraphs (a), (b) (1)-(3), (c), (d), and (e).

§ 52.17 Contents of applications.

(a)(1) The application must contain the information required by 10 CFR 50.33 (a)-(d), the first three sentences of § 50.34(a)(1), and, to the extent approval of emergency plans is sought under paragraph (b)(2)(ii) of this section, the information required by § 50.33 (g) and (j), and § 50.34(b)(6)(v). In particular, the application should describe the following:

(i) The number, type, and thermal power level of the facilities for which the site may be used;

(ii) The boundaries of the site;

(iii) The proposed general location of each facility on the site;

(iv) The anticipated maximum levels of radiological and thermal effluents each facility will produce;

(v) The type of cooling systems, intakes, and outflows that may be associated with each facility;

(vi) The seismic, meteorological, hydrologic, and geologic characteristics of the proposed site (see appendix A to 10 CFR part 100);

(vii) The location and description of any nearby industrial, military, or transportation facilities and routes; and

(viii) The existing and projected future population profile of the area surrounding the site.

(2) A complete environmental report as required by 10 CFR 51.45 and 51.50 must be included in the application, provided, however, that such environmental report must focus on the environmental effects of construction and operation of a reactor, or reactors, which have characteristics that fall within the postulated site parameters, and provided further that the report need not include an assessment of the benefits (for example, need for power) of the proposed action, but must include an evaluation of alternative sites to determine whether there is any ob-

viously superior alternative to the site proposed.

(b)(1) The application must identify physical characteristics unique to the proposed site, such as egress limitations from the area surrounding the site, that could pose a significant impediment to the development of emergency plans.

(2) The application may also either:

(i) Propose major features of the emergency plans, such as the exact sizes of the emergency planning zones, that can be reviewed and approved by NRC in consultation with FEMA in the absence of complete and integrated emergency plans; or

(ii) Propose complete and integrated emergency plans for review and approval by the NRC, in consultation with the Federal Emergency Management Agency, in accord with the applicable provisions of 10 CFR 50.47.

(3) Under paragraphs (b)(1) and (2)(i) of this section, the application must include a description of contacts and arrangements made with local, state, and federal governmental agencies with emergency planning responsibilities. Under the option set forth in paragraph (b)(2)(ii) of this section, the applicant shall make good faith efforts to obtain from the same governmental agencies certifications that: (i) The proposed emergency plans are practicable; (ii) These agencies are committed to participating in any further development of the plans, including any required field demonstrations, and (iii) that these agencies are committed to executing their responsibilities under the plans in the event of an emergency. The application must contain any certifications that have been obtained. If these certifications cannot be obtained, the application must contain information, including a utility plan, sufficient to show that the proposed plans nonetheless provide reasonable assurance that adequate protective measures can and will be taken, in the event of a radiological emergency at the site.

(c) If the applicant wishes to be able to perform, after grant of the early site permit, the activities at the site allowed by 10 CFR 50.10(e)(1) without first obtaining the separate authorization required by that section, the applicant shall propose, in the early site permit, a plan for redress of the site in the event that the activities are performed and the site permit expires before it is referenced in an application for a construction permit or a combined license issued under subpart C of this part. The application must demonstrate that there is reasonable assurance that redress carried out under the plan will achieve an environmentally stable and aesthetically acceptable site suitable for whatever non-nuclear use may conform with local zoning laws.

§ 52.18 Standards for review of applications.

Applications filed under this subpar will be reviewed according to the applicable standards set out in 10 CFR part 50 and its appendices and par 100 as they apply to applications fo construction permits for nuclea power plants. In particular, the Commission shall prepare an environmental impact statement during review of the application, in accordance wit the applicable provisions of 10 CFR part 51, provided, however, that th draft and final environmental impac statements prepared by the Commission focus on the environmental effects of construction and operation o a reactor, or reactors, which hav characteristics that fall within th postulated site parameters, and provided further that the statement need not include an assessment of th benefits (for example, need for powe of the proposed action, but must include an evaluation of alternative site to determine whether there is any obviously superior alternative to the si proposed. The Commission shall determine, after consultation with the Federal Emergency Management Agenc whether the information required the applicant by § 52.17(b)(1) show that there is no significant impediment to the development of emergency plans, whether any major featur of emergency plans submitted by th applicant under § 52.17(b)(2)(i) are acceptable, and whether any emergenc plans submitted by the applica under § 52.17(b)(2)(ii) provide reasonable assurance that adequate protecti measures can and will be taken in the event of a radiological emergency.

§ 52.19 Permit and renewal fees.

The fees charged for the review of an application for the initial issuance or renewal of an early site permit are set forth in 10 CFR 170.12, together with a schedule for their deferred recovery. There is no application fee.

§ 52.21 Hearings.

An early site permit is a partial construction permit and is therefore subject to all procedural requirements in 10 CFR part 2 which are applicable to construction permits, including the requirements for docketing in §§ 2.101(a)(1)-(4), and the requirements for issuance of a notice of hearing in §§ 2.104(a), (b)(1)(iv) and (v), (b)(2) to the extent it runs parallel to (b)(1)(iv) and (v), and (b)(3), provided that the designated sections may not be construed to require that the environmental report or draft or final environmental impact statement include an assessment of the benefits of the proposed action. In the hearing, the presiding officer shall also determine whether, taking into consideration the site criteria contained in 10 CFR part 100, a reactor, or reactors, having characteristics that fall within the parameters for the site can be constructed and operated without undue risk to the health and safety of the public. All hearings conducted on applications for early site permits filed under this part are governed by the procedures contained in subpart G of part 2.

§ 52.23 Referral to the ACRS.

The Commission shall refer a copy of the application to the Advisory Committee on Reactor Safeguards (ACRS). The ACRS shall report on those portions of the application which concern safety.

§ 52.24 Issuance of early site permit.

After conducting a hearing under § 52.21 of this subpart and receiving the report to be submitted by the Advisory Committee on Reactor Safeguards under § 52.23 of this subpart, and upon determining that an application for an early site permit meets the applicable standards and requirements of the Atomic Energy Act and the Commission's regulations, and that notifications, if any, to other agencies or bodies have been duly made, the Commission shall issue an early site permit, in the form and containing the conditions and limitations, as the Commission deems appropriate and necessary.

§ 52.25 Extent of activities permitted.

(a) If an early site permit contains a site redress plan, the holder of the permit, or the applicant for a construction permit or combined license who references the permit, may perform the activities at the site allowed by 10 CFR 50.10(e)(1) without first obtaining the separate authorization required by that section, provided that the final environmental impact statement prepared for the permit has concluded that the activities will not result in any significant adverse environmental impact which cannot be redressed.

(b) If the activities permitted by paragraph (a) of this section are performed at any site for which an early site permit has been granted, and the site is not referenced in an application for a construction permit or a combined license issued under subpart C of this part while the permit remains valid, then the early site permit must remain in effect solely for the purpose of site redress, and the holder of the permit shall redress the site in accordance with the terms of the site redress plan required by § 52.17(c). If, before redress is complete, a use not envisaged in the redress plan is found for the site or parts thereof, the holder of the permit shall carry out the redress plan to the greatest extent possible consistent with the alternate use.

§ 52.27 Duration of permit.

(a) Except as provided in paragraph (b) of this section, an early site permit issued under this subpart may be valid for not less than ten nor more than twenty years from the date of issuance.

(b) (1) An early site permit continues to be valid beyond the date of expiration in any proceeding on a construction permit application or a combined license application which references the early site permit and is docketed either before the date of expiration of the early site permit, or, if a timely application for renewal of the permit has been filed, before the Commission has determined whether to renew the permit.

(2) An early site permit also continues to be valid beyond the date of expiration in any proceeding on an operating license application which is based on a construction permit which references the early site permit, and in any hearing held under § 52.103 of this part before operation begins under a combined license which references the early site permit.

(c) An applicant for a construction permit or combined license may, at its own risk, reference in its application a site for which an early site permit application has been docketed but not granted.

§ 52.29 Application for renewal.

(a) Not less than twelve nor more than thirty-six months prior to the end of the initial twenty-year period, or any later renewal period, the permit holder may apply for a renewal of the permit. An application for renewal must contain all information necessary to bring up to date the information and data contained in the previous application.

(b) Any person whose interests may be affected by renewal of the permit may request a hearing on the application for renewal. The request for a hearing must comply with 10 CFR 2.714. If a hearing is granted, notice of the hearing will be published in accordance with 10 CFR 2.703.

(c) An early site permit, either original or renewed, for which a timely application for renewal has been filed, remains in effect until the Commission has determined whether to renew the permit. If the permit is not renewed, it continues to be valid in certain proceedings in accordance with the provisions of § 52.27(b).

(d) The Commission shall refer a copy of the application for renewal to the Advisory Committee on Reactor Safeguards (ACRS). The ACRS shall report on those portions of the application which concern safety and shall apply the criteria set forth in § 52.31.

§ 52.31 Criteria for renewal.

(a) The Commission shall grant the renewal if the Commission determines that the site complies with the Atomic Energy Act and the Commission's regulations and orders applicable and in effect at the time the site permit was originally issued, and any new requirements the Commission may wish to impose after a determination that there is a substantial increase in overall protection of the public health and safety or the common defense and security to be derived from the new requirements and that the direct and indirect costs of implementation of those requirements are justified in view of this increased protection.

(b) A denial of renewal on this basis does not bar the permit holder or another applicant from filing a new application for the site which proposes changes to the site or the way in which it is used which correct the deficiencies cited in the denial of the renewal.

§ 52.33 Duration of renewal.

Each renewal of an early site permit may be for not less than ten nor more than twenty years.

§ 52.35 Use of site for other purposes.

A site for which an early site permit has been issued under this subpart may be used for purposes other than those described in the permit, including the location of other types of energy facilities. The permit holder shall inform the Director of Nuclear Reactor Regulation of any significant uses for the site which have not been approved in the early site permit. The information about the activities must be given to the Director in advance of any actual construction or site modification for the activities. The information provided could be the basis for imposing new requirements on the permit, in accordance with the provisions of § 52.39. If the permit holder informs the Director that the holder no longer intends to use the site for a nuclear power plant, the Director shall terminate the permit.

§ 52.37 Reporting of defects and noncompliance; revocation, suspension, modification of permits for cause.

For purposes of part 21 and 10 CFR 50.100, an early site permit is a construction permit.

§ 52.39 Finality of early site permit determinations.

(a)(1) Notwithstanding any provision in 10 CFR 50.109, while an early site permit is in effect under §§ 52.27 or 52.33 the Commission may not impose new requirements, including new emergency planning requirements, on the early site permit or the site for which it was issued, unless the Commission determines that a modification is necessary either to bring the permit or the site into compliance with the Commission's regulations and orders applicable and in effect at the time the permit was issued, or to assure adequate protection of the public health and safety or the common defense and security.

(2) In making the findings required for issuance of a construction permit, operating license, or combined license, or the findings required by § 52.103 of this part, if the application for the construction permit, operating license, or combined license references an early site permit, the Commission shall treat as resolved those matters resolved in the proceeding on the application for issuance or renewal of the early site permit, unless a contention is admitted that a reactor does not fit within one or more of the site parameters included in the site permit, or a petition is filed which alleges either that the site is not in compliance with the terms of the early site permit, or that the terms and conditions of the early site permit should be modified.

(i) A contention that a reactor does not fit within one or more of the site parameters included in the site permit may be litigated in the same manner as other issues material to the proceeding.

(ii) A petition which alleges that the site is not in compliance with the terms of the early site permit must include, or clearly reference, official NRC documents, documents prepared by or for the permit holder, or evidence admissible in a proceeding under subpart G of part 2, which show, prima facie, that the acceptance criteria have not been met. The permit holder and NRC staff may file answers to the petition within the time specified in 10 CFR 2.730 for answers to motions by parties and staff. If the Commission, in its judgment, decides, on the basis of the petitions and any answers thereto, that the petition meets the requirements of this paragraph, that the issues are not exempt from adjudication under 5 U.S.C. 554(a)(3), that genuine issues of material fact are raised, and that settlement or other informal resolution of the issues is not possible, then the genuine issues of material fact raised by the petition must be resolved in accordance with the provisions in 554, 556, and 557 which are applicable to determining application for initial licenses.

(iii) A petition which alleges that the terms and conditions of the early site permit should be modified will be processed in accord with 10 CFR 2.206. Before construction commences, the Commission shall consider the petition and determine whether any immediate action is required. If the petition is granted, then an appropriate order will be issued. Construction under the construction permit or combined license will not be affected by the granting of the petition unless the order is made immediately effective.

(iv) Prior to construction, the Commission shall find that the terms of the early site permit have been met.

(b) An applicant for a construction permit, operating license, or combined license who has filed an application referencing an early site permit issued under this subpart may include in the application a request for a variance from one or more elements of the permit. In determining whether to grant the variance, the Commission shall apply the same technically relevant criteria as were applicable to the application for the original or renewed site permit. Issuance of the variance must be subject to litigation during the construction permit, operating license, or combined license proceeding in the same manner as other issues material to those proceedings.

Subpart B—Standard Design Certifications

§ 52.41 Scope of subpart.

This subpart set out the requirements and procedures applicable to Commission issuance of rules granting standard design certification for nuclear power facilities separate from the filing of an application for a construction permit or combined license for such facility.

§ 52.43 Relationship to appendices M, N, and O of this part.

(a) Appendix M to this part governs the issuance of licenses to manufacture nuclear power reactors to be installed and operated at sites not identified in the manufacturing license application. Appendix N governs licenses to construct and operate nuclear power reactors of duplicate design at multiple sites. These appendices may be used independently of the provisions in this subpart unless the applicant also wishes to use a certified standard design approved under this subpart.

(b) Appendix O governs the staff review and approval of preliminary and final standard designs. A staff approval under appendix O is no way affects the authority of the Commission or the presiding officer in any proceeding under subpart G of 10 CFR part 2. Subpart B of part 52 governs Commission approval, or certification, of standard designs by rulemaking.

(c) A final design approval under appendix O is a prerequisite for certification of a standard design under this subpart. An application for a final design approval must state whether the applicant intends to seek certification of the design. If the applicant does so intend, the application for the final design approval must, in addition to containing the information required by appendix O, comply with the applicable requirements of part 52, subpart B, particularly §§ 52.45 and 52.47.

§ 52.45 Filing of applications.

(a)(1) Any person may seek a standard design certification for an essentially complete nuclear power plant design which is an evolutionary change from light water reactor designs of plants which have been
censed and in commercial operati
before the effective date of this rule.

(2) Any person may also seek
standard design certification for a r
clear power plant design which diff
significantly from the light water re
tor designs described in paragra
(a)(1) of this section or utilizes simp
fied, inherent, passive, or other in
vative means to accomplish its saf
functions.

(b) An application for certificati
may be filed notwithstanding the f
that an application for a constructi
permit or combined license for such
facility has not been filed.

(c)(1) Because a final design appr
al under appendix O of this part i
prerequisite for certification of
standard design, a person who se
such a certification and does not ho
or has not applied for, a final desi
approval, shall file with the Direc
of Nuclear Reactor Regulation an
plication for a final design appro
and certification.

(2) Any person who seeks certifi
tion but already holds, or has appli
for, a final design approval, also sh
file with the Director of Nuclear Re
tor Regulation an application for ce
fication, because the NRC staff m
require that the information bef
the staff in connection with the revi
for the final design approval be s
plemented for the review for certifi
tion.

(d) The applicant must comply w
the filing requirements of 10 C
50.30(a) (1)-(4), and (6) and 50.30(b)
they would apply to an application
a nuclear power plant constructi
permit. The following portions
§ 50.4, which is referenced
§ 50.30(a)(1), are applicable to
extent technically relevant: pa
graphs (a); (b), except for paragra
(6); (c); and (e).

§ 52.47 Contents of applications.

(a) The requirements of this pa
graph apply to all applications
design certification.

(1) An application for design cert
cation must contain:

(i) The technical information wh
is required of applicants for constr

tion permits and operating licenses by 10 CFR part 20, part 50 and its appendices, and parts 73 and 100, and which is technically relevant to the design and not site-specific;

(ii) Demonstration of compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f);

(iii) The site parameters postulated for the design, and an analysis and evaluation of the design in terms of such parameters;

(iv) Proposed technical resolutions of those Unresolved Safety Issues and medium- and high-priority Generic Safety Issues which are identified in the version of NUREG-0933 current on the date six months prior to application and which are technically relevant to the design;

(v) A design-specific probabilistic risk assessment;

(vi) Proposed tests, inspections, analyses, and acceptance criteria which are necessary and sufficient to provide reasonable assurance that, if the tests, inspections and analyses are performed and the acceptance criteria met, a plant which references the design is built and will operate in accordance with the design certification.

(vii) The interface requirements to be met by those portions of the plant for which the application does not seek certification. These requirements must be sufficiently detailed to allow completion of the final safety analysis and design-specific probabilistic risk assessment required by paragraph (a)(1)(v) of this section;

(viii) Justification that compliance with the interface requirements of paragraph (a)(1)(vii) of this section is verifiable through inspection, testing (either in the plant or elsewhere), or analysis. The method to be used for verification of interface requirements must be included as part of the proposed tests, inspections, analyses, and acceptance criteria required by paragraph (a)(1)(vi) of this section; and

(ix) A representative conceptual design for those portions of the plant for which the application does not seek certification, to aid the staff in its review of the final safety analysis and probabilistic risk assessment required by paragraph (a)(1)(v) of this section, and to permit assessment of the adequacy of the interface requirements called for by paragraph (a)(1)(vii) of this subsection.

(2) The application must contain a level of design information sufficient to enable the Commission to judge the applicant's proposed means of assuring that construction conforms to the design and to reach a final conclusion on all safety questions associated with the design before the certification is granted. The information submitted for a design certification must include performance requirements and design information sufficiently detailed to permit the preparation of acceptance and inspection requirements by the NRC, and procurement specifications and construction and installation specifications by an applicant. The Commission will require, prior to design certification, that information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit if such information is necessary for the Commission to make its safety determination.

(3) The staff shall advise the applicant on whether any technical information beyond that required by this section must be submitted.

(b) This paragraph applies, according to its provisions, to particular applications:

(1) The application for certification of a nuclear power plant design which is an evolutionary change from light water reactor designs of plants which have been licensed and in commercial operation before the effective date of this rule must provide an essentially complete nuclear power plant design except for site-specific elements such as the service water intake structure and the ultimate heat sink.

(2)(i) Certification of a standard design which differs significantly from the light water reactor designs described in paragraph (b)(1) of this section or utilizes simplified, inherent, passive, or other innovative means to accomplish its safety functions will be granted only if

(A) (*1*) The performance of each safety feature of the design has been demonstrated through either analysis, appropriate test programs, experience, or a combination thereof;

(*2*) Interdependent effects among the safety features of the design have been found acceptable by analysis, appropriate test programs, experience, or a combination thereof;

(*3*) Sufficient data exist on the safety features of the design to assess the analytical tools used for safety analyses over a sufficient range of normal operating conditions, transient conditions, and specified accident sequences, including equilibrium core conditions; and

(*4*) The scope of the design is complete except for site-specific elements such as the service water intake structure and the ultimate heat sink; or

(B) There has been acceptable testing of an appropriately sited, full-size, prototype of the design over a sufficient range of normal operating conditions, transient conditions, and specified accident sequences, including equilibrium core conditions. If the criterion in paragraph (b)(2)(i)(A)(*4*) of this section is not met, the testing of the prototype must demonstrate that the non-certified portion of the plant cannot significantly affect the safe operation of the plant.

(ii) The application for final design approval of a standard design of the type described in this subsection must propose the specific testing necessary to support certification of the design, whether the testing be prototype testing or the testing required in the alternative by paragraph (b)(2)(i)(A) of this section.

The Appendix O final design approval of such a design must identify the specific testing required for certification of the design.

(3) An application seeking certification of a modular design must describe the various options for the configuration of the plant and site, including variations in, or sharing of, common systems, interface requirements, and system interactions. The final safety analysis and the probabilistic risk assessment should also account for differences among the various options, including any restrictions which will be necessary during the construction and startup of a given module to ensure the safe operation of any module already operating.

§ 52.48 Standards for review of applications.

Applications filed under this subpart will be reviewed for compliance with the standards set out in 10 CFR part 20, part 50 and its appendices, and parts 73 and 100 as they apply to applications for construction permits and operating licenses for nuclear power plants, and as those standards are technically relevant to the design proposed for the facility.

§ 52.49 Fees for review of applications.

The fees charged for the review o an application for the initial issuance or renewal of a standard design certification are set out in 10 CFR 170.12, together with a schedule for their deferred recovery. There is no application fee.

§ 52.51 Administrative review of applications.

(a) A standard design certification i a rule that will be issued in accordanc with the provisions of subpart H of 1 CFR part 2, as supplemented by the provisions of this section. The Commission shall initiate the rulemakin after an application has been file under § 52.45 and shall specify th procedures to be used for the rulemaking.

(b) The rulemaking procedures mus provide for notice and comment an an opportunity for an informal hearing before an Atomic Safety and Licensing Board. The procedures for th informal hearing must include the opportunity for written presentatio made under oath or affirmation an for oral presentations and questionin if the Board finds them either necessary for the creation of an adequat record or the most expeditious way t resolve controversies. Ordinarily, th questioning in the informal hearin will be done by members of the Boar using either the Board's questions o questions submitted to the Board b the parties. The Board may also request authority from the Commissio to use additional procedures, such a direct and cross examination by th parties, or may request that the Commission convene a formal hearing under subpart G of 10 CFR part 2 on specific and substantial disputes of fact, necessary for the Commission's decision, that cannot be resolved with sufficient accuracy except in a formal hearing. The staff will be a party in the hearing.

(c) The decision in such a hearing will be based only on information on which all parties have had an opportunity to comment, either in response to the notice of proposed rulemaking or in the informal hearing. Notwithstanding anything in 10 CFR 2.790 to the contrary, proprietary information will be protected in the same manner and to the same extent as proprietary information submitted in connection with applications for construction permits and operating licenses under 10 CFR part 50, provided that the design certification shall be published in chapter I of this title.

§ 52.53 Referral to the ACRS.

The Commission shall refer a copy of the application to the Advisory Committee on Reactor Safeguards (ACRS). The ACRS shall report on those portions of the application which concern safety.

§ 52.54 Issuance of standard design certification.

After conducting a rulemaking proceeding under § 52.51 on an application for a standard design certification and receiving the report to be submitted by the Advisory Committee on Reactor Safeguards under § 52.53, and upon determining that the application meets the applicable standards and requirements of the Atomic Energy Act and the Commission's regulations, the Commission shall issue a standard design certification in the form of a rule for the design which is the subject of the application.

§ 52.55 Duration of certification.

(a) Except as provided in paragraph (b) of this section, a standard design certification issued pursuant to this subpart is valid for fifteen years from the date of issuance.

(b) A standard design certification continues to be valid beyond the date of expiration in any proceeding on an application for a combined license or operating license which references the standard design certification and is docketed either before the date of expiration of the certification, or, if a timely application for renewal of the certification has been filed, before the Commission has determined whether to renew the certification. A design certification also continues to be valid beyond the date of expiration in any hearing held under § 52.103 before operation begins under a combined license which references the design certification.

(c) An applicant for a construction permit or combined license may, at its own risk, reference in its application a design for which a design certification application has been docketed but not granted.

§ 52.57 Application for renewal.

(a) Not less than twelve nor more than thirty-six months prior to expiration of the initial fifteen-year period, or any later renewal period, any person may apply for renewal of the certification. An application for renewal must contain all information necessary to bring up to date the information and data contained in the previous application. The Commission will require, prior to renewal of certification, that information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit if such information is necessary for the Commission to make its safety determination. Notice and comment procedures must be used for a rulemaking proceeding on the application for renewal. The Commission, in its discretion, may require the use of additional procedures in individual renewal proceedings.

(b) A design certification, either original or renewed, for which a timely application for renewal has been filed remains in effect until the Commission has determined whether to renew the certification. If the certification is not renewed, it continues to be valid in certain proceedings, in accordance with the provisions of § 52.55.

(c) The Commission shall refer a copy of the application for renewal to the Advisory Committee on Reactor Safeguards (ACRS). The ACRS shall report on those portions of the application which concern safety and shall apply the criteria set forth in § 52.59.

§ 52.59 Criteria for renewal.

(a) The Commission shall issue a rule granting the renewal if the design, either as originally certified or as modified during the rulemaking on the renewal, complies with the Atomic Energy Act and the Commission's regulations applicable and in effect at the time the certification was issued, and any other requirements the Commission may wish to impose after a determination that there is a substantial increase in overall protection of the public health and safety or the common defense and security to be derived from the new requirements and that the direct and indirect costs of implementation of those requirements are justified in view of this increased protection. In addition, the applicant for renewal may request an amendment to the design certification. The Commission shall grant the amendment request if it determines that the amendment will comply with the Atomic Energy Act and the Commission's regulations in effect at the time or renewal. If the amendment request entails such an extensive change to the design certification that an essentially new standard design is being proposed, an application for a design certification shall be filed in accordance with § 52.45 and 52.47 of this part.

(b) Denial of renewal does not bar the applicant, or another applicant, from filing a new application for certification of the design, which proposes design changes which correct the deficiencies cited in the denial of the renewal.

§ 52.61 Duration of renewal.

Each renewal of certification for a standard design will be for not less than ten nor more than fifteen years.

§ 52.63 Finality of standard design certifications.

(a)(1) Notwithstanding any provision in 10 CFR 50.109, while a standard design certification is in effect under § 52.55 or 52.61, the Commission may not modify, rescind, or impose new requirements on the certification, whether on its own motion, or in response to a petition from any person, unless the Commission determines in a rulemaking that a modification is necessary either to bring the certification or the referencing plants into compliance with the Commission's regulations applicable and in effect at the time the certification was issued, or to assure adequate protection of the public health and safety or the common defense and security. The rulemaking procedures must provide for notice and comment and an opportunity for the party which applied for the certification to request an informal hearing which uses the procedures described in § 52.51 of this subpart.

(2) Any modification the NRC imposes on a design certification rule under paragraph (a)(1) of this section will be applied to all plants referencing the certified design, except those to which the modification has been rendered technically irrelevant by action taken under paragraphs (a)(3), (a)(4), or (b) of this section.

(3) While a design certification is in effect under § 52.55 or § 52.61, unless (i) a modification is necessary to secure compliance with the Commission's regulations applicable and in effect at the time the certification was issued, or to assure adequate protection of the public health and safety or the common defense and security, and (ii) special circumstances as defined in 10 CFR 50.12(a) are present, the Commission may not impose new requirements by plant-specific order on any part of the design of a specific plant referencing the design certification if that part was approved in the design certification. In addition to the factors listed in § 50.12(a), the Commission shall consider whether the special circumstances which § 50.12(a)(2) requires to be present outweigh any decrease in safety that may result from

the reduction in standardization caused by the plant-specific order.

(4) Except as provided in 10 CFR 2.758, in making the findings required for issuance of a combined license or operating license, or for any hearing under § 52.103, the Commission shall treat as resolved those matters resolved in connection with the issuance or renewal of a design certification.

(b)(1) An applicant or licensee who references a standard design certification may request an exemption from one or more elements of the design certification. The Commission may grant such a request only if it determines that the exemption will comply with the requirements of 10 CFR 50.12(a). In addition to the factors listed in § 50.12(a), the Commission shall consider whether the special circumstances which § 50.12(a)(2) requires to be present outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption. The granting of an exemption on request of an applicant must be subject to litigation in the same manner as other issues in the operating license or combined license hearing.

(2) Subject § 50.59, a licensee who references a standard design certification may make changes to the design of the nuclear power facility, without prior Commission approval, unless the proposed change involves a change to the design as described in the rule certifying the design. The licensee shall maintain records of all changes to the facility and these records must be maintained and available for audit until the date of termination of the license.

(c) The Commission will require, prior to granting a construction permit, combined license, or operating license which references a standard design certification, that information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit if such information is necessary for the Commission to make its safety determinations, including the determination that the application is consistent with the certified design. This information may be acquired by appropriate arrangements with the design certification applicant.

Subpart C—Combined Licenses

§ 52.71 Scope of subpart.

This subpart sets out the requirements and procedures applicable to Commission issuance of combined licenses for nuclear power facilities.

§ 52.73 Relationship to subparts A and B.

An application for a combined license under this subpart may, but need not, reference a standard design certification issued under subpart B of this part or an early site permit issued under subpart A of this part, or both. In the absence of a demonstration that an entity other than the one originally sponsoring and obtaining a design certification is qualified to supply such design, the Commission will entertain an application for a combined license which references a standard design certification issued under subpart B only if the entity that sponsored and obtained the certification supplies the certified design for the applicant's use.

§ 52.75 Filing of applications.

Any person except one excluded by 10 CFR 50.38 may file an application for a combined license for a nuclear power facility with the Director of Nuclear Reactor Regulation. The applicant shall comply with the filing requirements of 10 CFR 50.4 and 50.30 (a) and (b), except for paragraph (b)(6) of § 50.4, as they would apply to an application for a nuclear power plant construction permit. The fees associated with the filing and review of the application are set out in 10 CFR part 170.

§ 52.77 Contents of applications; general information.

The application must contain all of the information required by 10 CFR 50.33, as that section would apply to applicants for construction permits and operating licenses, and 10 CFR 50.33a, as that section would apply to an applicant for a nuclear power plant construction permit. In particular, the applicant shall comply with the requirement of § 50.33a(b) regarding the submission of antitrust information.

§ 52.79 Contents of applications; technical information.

(a)(1) In general, if the application references an early site permit, the application need not contain information or analyses submitted to the Commission in connection with the early site permit, but must contain, in addition to the information and analyses otherwise required, information sufficient to demonstrate that the design of the facility falls within the parameters specified in the early site permit, and to resolve any other significant environmental issue not considered in any previous proceeding on the site or the design.

(2) If the application does not reference an early site permit, the applicant shall comply with the requirements of 10 CFR 50.30(f) by including with the application an environmental report prepared in accordance with the provisions of subpart A of 10 CFR part 51.

(3) If the application does not reference an early site permit which contains a site redress plan as described in § 52.17(c), and if the applicant wishes to be able to perform the activities at the site allowed by 10 CFR 50.10(e)(1), then the application must contain the information required by § 52.17(c).

(b) The application must contain the technically relevant information required of applicants for an operating license by 10 CFR 50.34. The final safety analysis report and other required information may incorporate by reference the final safety analysis report for a certified standard design. In particular, an application referencing a certified design must describe those portions of the design which are site-specific, such as the service water intake structure and the ultimate heat sink. An application referencing a certified design must also demonstrate compliance with the interface requirements established for the design under § 52.47(a)(1), and have available for audit procurement specifications and construction and installation specifications in accordance with § 52.47(a)(2). If the application does not reference a certified design, the application must
comply with the requirements
§ 52.47(a)(2) for level of design info
mation, and shall contain the techn
cal information required
§§ 52.47(a)(1) (i), (ii), (iv), and (v) a
(3), and, if the design is modul
§ 52.47(b)(3).

(c) The application for a combin
license must include the proposed te
inspections, and analyses which the
censee shall perform and the accep
ance criteria therefor which are nece
sary and sufficient to provide reason
ble assurance that, if the tests, inspe
tions and analyses are performed a
the acceptance criteria met, the faci
ty has been constructed and will ope
ate in conformity with the combin
license. Where the application refe
ences a certified standard design, t
test, inspections, analyses and accep
ance criteria contained in the certifi
design must apply to those portions
the facility design which are cover
by the design certification.

(d) The application must conta
emergency plans which provide re
sonable assurance that adequate pr
tective measures can and will be tak
in the event of a radiological emerge
cy at the site.

(1) If the application references
early site permit, the application m
incorporate by reference emergen
plans, or major features of emergen
plans, approved in connection with t
issuance of the permit.

(2) If the application does not refe
ence an early site permit, or if
emergency plans were approved
connection with the issuance of t
permit, the applicant shall make go
faith efforts to obtain certificatio
from the local and State government
agencies with emergency planning
sponsibilities (i) that the propos
emergency plans are practicable, (
that these agencies are committed
participating in any further develo
ment of the plans, including any
quired field demonstrations, and (i
that these agencies are committed
executing their responsibilities und
the plans in the event of an emerge
cy. The application must contain a
certifications that have been obtain
If these certifications cannot be o
tained, the application must conta
information, including a utility pl

sufficient to show that the proposed plans nonetheless provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the site.

§ 52.81 Standards for review of applications.

Applications filed under this subpart will be reviewed according to the standards set out in 10 CFR parts 20, 50, 51, 55, 73, and 100 as they apply to applications for construction permits and operating licenses for nuclear power plants, and as those standards are technically relevant to the design proposed for the facility.

§ 52.83 Applicability of part 50 provisions.

Unless otherwise specifically provided in this subpart, all provisions of 10 CFR part 50 and its appendices applicable to holders of construction permits for nuclear power reactors also apply to holders of combined licenses issued under this subpart. Similarly, all provisions of 10 CFR part 50 and its appendices applicable to holders of operating licenses also apply to holders of combined licenses issued under this subpart, once the Commission has made the findings required under § 52.103, provided that, as applied to a combined license, 10 CFR 50.51 must require that the initial duration of the license may not exceed 40 years from the date on which the Commission makes the findings required under § 52.103. However, any limitations contained in part 50 regarding applicability of the provisions to certain classes of facilities continue to apply.

§ 52.85 Administrative review of applications.

A proceeding on a combined license is subject to all applicable procedural requirements contained in 10 CFR part 2, including the requirements for docketing (§ 2.101) and issuance of a notice of hearing (§ 2.104). All hearings on combined licenses are governed by the procedures contained in part 2, subpart G.

§ 52.87 Referral to the ACRS.

The Commission shall refer a copy of the application to the Advisory Committee on Reactor Safeguards (ACRS). The ACRS shall report on those portions of the application which concern safety and shall apply the criteria set forth in § 52.81, in accordance with the finality provisions of this part.

§ 52.89 Environmental review.

If the application references an early site permit or a certified standard design, the environmental review must focus on whether the design of the facility falls within the parameters specified in the early site permit and any other significant environmental issue not considered in any previous proceeding on the site or the design. If the application does not reference an early site permit or a certified standard design, the environmental review procedures set out in 10 CFR part 51 must be followed, including the issuance of a final environmental impact statement, but excluding the issuance of a supplement under § 51.95(a).

§ 52.91 Authorization to conduct site activities.

(a)(1) If the application references an early site permit which contains a site redress plan as described in § 52.17(c) the applicant is authorized by § 52.25 to perform the site preparation activities described in 10 CFR 50.10(e)(1).

(2) If the application does not reference an early site permit which contains a redress plan, the applicant may not perform the site preparation activities allowed by 10 CFR 50.10(e)(1) without first submitting a site redress plan in accord with § 52.79(a)(3) and obtaining the separate authorization required by 10 CFR 50.10(e)(1). Authorization must be granted only after the presiding officer in the proceeding on the application has made the findings and determination required by 10 CFR 50.10(e)(2) and has determined that the site redress plan meets the criteria in § 52.17(c).

(3) Authorization to conduct the activities described in 10 CFR 50.10(e)(3)(i) may be granted only after the presiding officer in the combined license proceeding makes the ad-

ditional finding required by 10 CFR 50.10(e)(3)(ii).

(b) If, after an applicant for a combined license has performed the activities permitted by paragraph (a) of this section, the application for the license is withdrawn or denied, and the early site permit referenced by the application expires, then the applicant shall redress the site in accord with the terms of the site redress plan. If, before redress is complete, a use not envisaged in the redress plan is found for the site or parts thereof, the applicant shall carry out the redress plan to the greatest extent possible consistent with the alternate use.

§ 52.93 Exemptions and variances.

(a) Applicants for a combined license under this subpart, or any amendment to a combined license, may include in the application a request, under 10 CFR 50.12, for an exemption from one or more of the Commission's regulations, including any part of a design certification rule. The Commission shall grant such a request if it determines that the exemption will comply with the requirements of 10 CFR 50.12(a) or 52.63(b)(1) if the exemption includes any part of the design certification rule.

(b) An applicant for a combined license, or any amendment to a combined license, who has filed an application referencing an early site permit issued under this subpart may include in the application a request for a variance from one or more elements of the permit. In determining whether to grant the variance, the Commission shall apply the same technically relevant criteria as were applicable to the application for the original or renewed site permit. Issuance of the variance must be subject to litigation during the combined license proceeding in the same manner as other issues material to that proceeding.

§ 52.97 Issuance of combined licenses.

(a) The Commission shall issue a combined license for a nuclear power facility upon finding that the applicable requirements of 10 CFR 50.40, 50.42, 50.43, 50.47, and 50.50 have been met, and that there is reasonable assurance that the facility will be constructed and operated in conformity with the license, the provisions of the Atomic Energy Act, and the Commission's regulations.

(b) The Commission shall identify in the license the tests, inspections, and analyses that the licensee shall perform and the acceptance criteria therefor which are necessary and sufficient to provide reasonable assurance that, if the tests, inspections, and analyses are performed and the acceptance criteria met, the facility has been constructed and will be operated in conformity with the license, the provisions of the Atomic Energy Act, and the Commission's regulations. Any modification to, addition to, or deletion from the terms of a combined license, including any modification to, addition to, or deletion from the tests, inspections, analyses, or related acceptance criteria contained in such license, is a proposed amendment to such license. There shall be an opportunity for a hearing on the proposed amendments, and any hearing held must be completed before operation of the facility.

§ 52.99 Inspection during construction.

After issuance of a combined license, the NRC staff shall assure that the required inspections, tests, and analyses are performed and that the prescribed acceptance criteria are met. Holders of combined licenses shall comply with the provisions of 10 CFR 50.70 and 50.71. At appropriate intervals during construction, the NRC staff shall publish in the FEDERAL REGISTER notices of the successful completion of inspections, tests, and analyses.

§ 52.101 Pre-operational antitrust review.

If, before the Commission makes the findings required uner § 52.103, the Commission, after consultation with the Attorney General, determines that significant changes in the licensee's activities or proposed activities have occurred subsequent to the previous review by the Attorney General and the Commission in connection with the issuance of the combined license, the antitrust review required by section 105c(2) of the Atomic Energy Act must be completed prior to commencement of commercial operation of the facility. Upon completion of this review, the Director of Nuclear Reactor Regulation may impose any additional license conditions as authorized by section 105c of the Atomic Energy Act.

§ 52.103 Operation under a combined license.

(a) Not less than 180 days before loading of fuel into the reactor, the holder of the combined license shall, in writing, notify the Commission of the expected dates of both fuel loading and criticality. The Commission shall publish notice of these dates in the FEDERAL REGISTER. The FEDERAL REGISTER notice must also advise persons whose interests may be affected by facility operation of their rights under paragraph (b) of this section.

(b)(1) Not later than 60 days after publication of the notice required by paragraph (a) of this section, any person whose interest may be affected by facility operation may file one or both of the following in writing:

(i) A petition which shows, prima facie, that one or more of the acceptance criteria in the combined license have not been met and, as a result, there is good cause to modify or prohibit operation; or

(ii) A petition to modify the terms and conditions of the combined license.

(2)(i) A good cause petition filed under paragraph (b)(1)(i) of this section will be granted by the Commission only if it includes, or clearly references, official NRC documents, documents prepared by or for the combined license holder, or evidence admissible in a proceeding under subpart G of part 2, which show, prima facie, that the acceptance criteria have not been met. The combined license holder and NRC staff may file answers to the petition within the time specified in 10 CFR 2.730 for answers to motions by parties and staff. If the Commission in its judgment decides, on the basis of the petitions and any answers thereto, that the petition meets the requirements of this paragraph, that the issues raised by the petition are not exempt from adjudication under 5 U.S.C. 554(a)(3), that genuine issues of material fact are raised, and that settlement or other informal resolution of the issues is not possible, then the genuine issues of material fact raised by the petition must be resolved in accordance with the provisions in 5 U.S.C. 554, 556, and 557 which are applicable to determining applications for initial licenses. In such cases, the notice of hearing from the Commission must specify the procedures to be followed. Matters exempt from adjudication under 5 U.S.C. 554(a)(3) may be decided by the Commission solely on the basis of the showing of good cause and any responsive pleadings.

(ii) A petition to modify the terms and conditions of the combined license will be processed as a request for action in accord with 10 CFR 2.206. The petitioner shall file the petition with the Secretary of the Commission. Before the licensed activity allegedly affected by the petition (fuel loading, low power testing, etc.) commences, the Commission shall consider the petition and determine whether any immediate action is required. If the petition is granted, then an appropriate order will be issued. Fuel loading and operation under the combined license will not be affected by the granting of the petition unless the order is made immediately effective.

(c) Prior to fuel loading, the Commission shall find that the acceptance criteria in the combined license have been met and that, accordingly, the facility has been constructed and will operate in conformity with the Atomic Energy Act and the Commission's regulations. If the combined license is for a modular design, each reactor module may require a separate finding as construction proceeds.

APPENDICES A-L TO PART 52—[RESERVED]

APPENDIX M TO PART 52—STANDARDIZATION OF DESIGN; MANUFACTURE OF NUCLEAR POWER REACTORS; CONSTRUCTION AND OPERATION OF NUCLEAR POWER REACTORS MANUFACTURED PURSUANT TO COMMISSION LICENSE

Section 101 of the Atomic Energy Act of 1954, as amended, and § 50.10 of this chapter require a Commission license to transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, possess, use, import, or export any production or utilization facility. The regulations in part 50 require the issuance of a construction permit by the Commission before commencement of construction of a production or utilization facility, and the issuance of an operating license before operation of the facility. The provisions of part 50 relating to the facility licensing process are, in general, predicated on the assumption that the facility will be assembled and constructed on the site at which it is to be operated. In those circumstances, both facility design and site-related issues can be considered in the initial, construction permit stage of the licensing process.

However, under the Atomic Energy Act, a license may be sought and issued authorizing the manufacture of facilities but not their construction and installation at the sites on which the facilities are to be operated. Prior to the "commencement of construction", as defined in § 50.10(c) of this chapter of a facility (manufactured pursuant to such a Commission license) on the site at which it is to operate—that is preparation of the site and installation of the facility—a construction permit that, among other things, reflects approval of the site on which the facility is to be operated, must be issued by the Commission. This appendix sets out the particular requirements and provisions applicable to such situations where nuclear power reactors to be manufactured pursuant to a Commission license and subsequently installed at the site pursuant to a Commission construction permit, are of the type described in § 50.22 of this chapter. It thus codifies one approach to the standardization of nuclear power reactors.

1. Except as otherwise specified in this appendix or as the context otherwise indicates, the provisions in part 50 applicable to construction permits, including the requirement in § 50.58 of this chapter for review of the application by the Advisory Committee on Reactor Safeguards and the holding of a public hearing, apply in context, with respect to matters of radiological health and safety, environmental protection, and the common defense and security, to licenses pursuant to this appendix M to manufacture nuclear power reactors (manufacturing licenses) to be operated at sites not identified in the license application.

2. An application for a manufacturing license pursuant to this appendix M must be submitted, as specified in § 50.4 of this chapter and meet all the requirements of §§ 50.34(a) (1)-(9) and 50.34a (a) and (b) of this chapter except that the preliminary safety analysis report shall be designated as a "design report" and any required information or analyses relating to site matters shall be predicated on postulated site parameters which must be specified in the application. The application must also include information pertaining to design features of the proposed reactor(s) that affect plans for coping with emergencies in the operation of the reactor(s).

3. An applicant for a manufacturing license pursuant to this appendix M shall submit with his application an environmental report as required of applicants for construction permits in accordance with subpart A of part 51 of this chapter, provided, however, that such report shall be directed at the manufacture of the reactor(s) at the manufacturing site; and, in general terms, at the construction and operation of the reactor(s) at a hypothetical site or sites having characterisitics that fall within the postulated site parameters. The related draft and final environmental impact statement prepared by the Commission's regulatory staff will be similarly directed.

4. (a) Sections 50.10 (b) and (c), 50.12(b), 50.23, 50.30(d), 50.34(a)(10), 50.34a(c), 50.35 (a) and (c), 50.40(a), 50.45, 50.55(d), 50.56 of this chapter and appendix J of part 50 do not apply to manufacturing licenses. Appendices E and H of part 50 apply to manufacturing licenses only to the extent that the requirements of these appendices involve facility design features.

(b) The financial information submitted pursuant to § 50.33(f) of this chapter and appendix C of part 50 shall be directed at a demonstration of the financial qualifications of the applicant for the manufacturing license to carry out the manufacturing activity for which the license is sought.

5. The Commission may issue a license to manufacture one or more nuclear power reactors to be operated at sites not identified in the license application if the Commission finds that:

(a) The applicant has described the proposed design of and the site parameters postulated for the reactor(s), including, but not limited to, the principal architectural and engineering criteria for the design, and has identified the major features of components incorporated therein for the protection of the health and safety of the public.

(b) Such further technical or design information as may be required to complete the design report and which can reasonably be left for later consideration, will be supplied in a supplement to the design report.

(c) Safety features or components, if any, which require research and development have been described by the applicant and the applicant has identified, and there will be conducted a research and development program reasonably designed to resolve any safety questions associated with such features of components; and

(d) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved before any of the proposed nuclear power reactor(s) are removed from the manufacturing site and (ii) taking into consideration the site criteria contained in part 100 of this chapter, the proposed reactor(s) can be constructed and operated at sites having characteristics that fall within the site parameters postulated for the design of the reactor(s) without undue risk to the health and safety of the public.

(e) The applicant is technically and financially qualified to design and manufacture the proposed nuclear power reactor(s).

(f) The issuance of a license to the applicant will not be inimical to the common defense and security or to the health and safety of the public.

(g) On the basis of the evaluations and analyses of the environmental effects of the proposed action required by subpart A of part 51 of this chapter and paragraph 3 of this appendix, the action called for is the issuance of the license.

NOTE: When an applicant has supplied initially all of the technical information required to complete the application, including the final design of the reactor(s), the findings required for the issuance of the license will be appropriately modified to reflect that fact.

6. Each manufacturing license issued pursuant to this appendix will specify the number of nuclear power reactors authorized to be manufactured and the latest date for the completion of the manufacture of all such reactors. Upon good cause shown, the Commission will extend such completion date for a reasonable period of time.

7. The holder of a manufacturing license issued pursuant to this appendix M shall submit to the Commission the final design of the nuclear power reactor(s) covered by the license as soon as such design has been completed. Such submittal shall be in the form of an application for amendment of the manufacturing license.

8. The prohibition in § 50.10(c) of this chapter against commencement of construction of a production or utilization facility prior to issuance of a construction permit applies to the transport of a nuclear power reactor(s) manufactured pursuant to this appendix from the manufacturing facility to the site at which the reactor(s) will be installed and operated. In addition, such nuclear power reactor(s) shall not be removed from the manufacturing site until the final design of the reactor(s) has been approved by the Commission in accordance with paragraph 7.

9. An application for a permit to construct a nuclear power reactor(s) which is the subject of an application for a manufacturing license pursuant to this appendix M need not contain such information or analyses as have previously been submitted to the Commission in connection with the application for a manufacturing license, but shall by §§ 50.34(a) and 50.34a of this chapter, sufficient information to demonstrate that the site on which the reactor(s) is to be operated falls within the postulated site parameters specified in the relevant manufacturing license application.

10. The Commission may issue a permit to construct a nuclear power reactor(s) which is the subject of an application for a manufacturing license pursuant to this appendix M if the Commission (a) finds that the site on which the reactor is to be operated falls within the postulated site parameters specified in the relevant application for a manufacturing license and (b) makes the findings otherwise required by part 50. In no event will a construction permit be issued until the relevant manufacturing license has been issued.

11. An operating license for a nuclear power reactor(s) that has been manufactured under a Commission license issued pursuant to this appendix M may be issued by the Commission pursuant to § 50.57 and subpart A of part 51 of this chapter except that the Commission shall find, pursuant to § 50.57(a)(1), that construction of the reactor(s) has been substantially completed in conformity with both the manufacturing license and the construction permit and the applications therefor, as amended, and the provisions of the Act, and the rules and regulations of the Commission. Notwithstanding the other provisions of this paragraph, no application for an operating license for a nuclear power reactor(s) that has been manufactured under a Commission license issued pursuant to this appendix M will be docketed until the application for an amendment to the relevant manufacturing license required by paragraph 7 has been docketed.

12. In making the findings required by this part for the issuance of a construction permit or an operating license for a nuclear power reactor(s) that has been manufactured under a Commission license issued pursuant to this appendix, or an amendment to such a manufacturing license, construction permit, or operating license, the Commission will treat as resolved those matters which have been resolved at an earlier stage of the licensing process, unless there exists significant new information that substantially affects the conclusion(s) reached at the earlier stage or other good cause.

APPENDIX N TO PART 52—STANDARDIZATION OF NUCLEAR POWER PLANT DESIGNS: LICENSES TO CONSTRUCT AND OPERATE NUCLEAR POWER REACTORS OF DUPLICATE DESIGN AT MULTIPLE SITES

Section 101 of the Atomic Energy Act of 1954, as amended, and § 50.10 of this chapter require a Commission license to transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, possess, use, import or export any production or utilization facility. The regulations in part 50 require the issuance of a construction permit by the Commission before commencement of construction of a production or utilization facility, except as provided in § 50.10(e) of this chapter, and the issuance of an operating license before the operation of the facility.

The Commission's regulations in part 2 of this chapter specifically provide for the holding of hearings on particular issues separately from other issues involved in hearings in licensing proceedings (§ 2.761a, appendix A, section I(c)), and for the consolidation of adjudicatory proceedings and of the presentations of parties in adjudicatory proceedings such as licensing proceedings (§§ 2.715a, 2.716).

This appendix sets out the particular requirements and provisions applicable to situations in which applications are filed by one or more applicants for licenses to construct and operate nuclear power reactors of essentially the same design to be located at different sites.[1]

1. Except as otherwise specified in this appendix or as the context otherwise indicates, the provisions of part 50, applicable to construction permits and operating licenses, including the requirement in § 50.58 of this chapter for review of the application by the Advisory Committee on Reactor Safeguards and the holding of public hearings, apply to construction permits and operating license subject to this appendix N.

2. Applications for construction permits submitted pursuant to this appendix must include the information required by §§ 50.33, 50.33a, 50.34(a) and 50.34a (a) and (b) of this chapter, and be submitted as specified in § 50.4 of this chapter. The applicant shall also submit the information required by § 51.50 of this chapter.

For the technical information required by §§ 50.34(a) (1) through (5) and (8) and 50.34a (a) and (b) of this chapter, reference may be made to a single preliminary safety analysis of the design[2] which, for the purposes of § 50.34(a)(1) includes one set of site parameters postulated for the design of the reactors, and an analysis and evaluation of the reactors in terms of such postulated site parameters. Such single preliminary safety analysis shall also include information pertaining to design features of the proposed reactors that affect plans for coping with emergencies in the operation of the reactors, and shall describe the quality assurance program with respect to aspects of design, fabrication, procurement and construction that are common to all of the reactors.

3. Applications for operating licenses submitted pursuant to this appendix N shall include the information required by §§ 50.33, 50.34 (b) and (c), and 50.34a(c) of this chapter. The applicant shall also submit the information required by § 51.53 of this chapter. For the technical information required by §§ 50.34(b) (2) through (5) and 50.34a(c), reference may be made to a single final safety analysis of the design.

APPENDIX O TO PART 52—STANDARDIZATION OF DESIGN: STAFF REVIEW OF STANDARD DESIGNS

This appendix sets out procedures for the filing, staff review and referral to the Advisory Committee on Reactor Safeguards of standard designs for a nuclear power reactor of the type described in § 50.22 of this chapter or major portions thereof.

1. Any person may submit a proposed preliminary of final standard design for a nuclear power reactor of the type described in § 50.22 to the regulatory staff for its review. Such a submittal may consist of either the preliminary or final design for the entire reactor facility or the preliminary or final design of major portions thereof.

2. The submittal for review of the standard design must be made in the same manner and in the same number of copies as provided in §§50.4 and 50.30 of this chapter for license applications.

3. The submittal for review of the standard design shall include the information described in §§ 50.33 (a) through (d) of this chapter and the applicable technical information required by §§ 50.34 (a) and (b), as appropriate, and 50.34a of this chapter

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[1] If the design for the power reactor(s) proposed in a particular application is not identical to the others, that application may not be processed under this appendix and subpart D of part 2 of this chapter.

[2] As used in this appendix, the design of a nuclear power reactor included in a single referenced safety analysis report means the design of those structures, systems and components important to radiological health and safety and the common defense and security.

(other than that required by §§ 50.34(a) (6) and (10), 50.34(b)(1), (6) (i), (ii), (iv), and (v) and 50.34(b) (7) and (8)). The submittal shall also include a description, analysis and evaluation of the interfaces between the submitted design and the balance of the nuclear power plant. With respect to the requirements of §§ 50.34(a)(1) of this chapter, the submittal for review of a standard design shall include the site parameters postulated for the design, and an analysis and evaluation of the design in terms of such postulated site parameters. The information submitted pursuant to § 50.34(a)(7) of this chapter, shall be limted to the quality assurance program to be applied to the design, procurement and fabrication of the structures, systems, and components for which design review has been requested and the information submitted pursuant to § 50.34(a)(9) of this chapter shall be limited to the qualifications of the person submitting the standard design to design the reactor or major portion thereof. The submittal shall also include information pertaining to design features that affect plans for coping with emergencies in the operation of the reactor or major portion thereof.

4. Once the regulatory staff has initiated a technical review of a submittal under this appendix, the submittal will be referred to the Advisory Committee on Reactor Safeguards (ACRS) for a review and report.

5. Upon completion of their review of a submittal under this appendix, the regulatory staff shall publish in the FEDERAL REGISTER a determination as to whether or not the preliminary or final design is acceptable, subject to such conditions as may be appropriate, and make available in the Public Document Room an analysis of the design in the form of a report. An approved design shall be utilized by and relied upon by the regulatory staff and the ACRS in their review of any individual facility license application which incorporates by reference a design approved in accordance with this paragraph unless there exists significant new information which substantially affects the earlier determination or other good cause.

6. The determination and report by the regulatory staff shall not constitute a commitment to issue a permit or license, or in any way affect the authority of the Commission, Atomic Safety and Licensing Appeal Panel, Atomic Safety and Licensing Board Panel, and other presiding officers in any proceeding under subpart G of part 2 of this chapter.

7. Information requests to the approval holder regarding an approved design shall be evaluated prior to issuance to ensure that the burden to be imposed on respondents is justified in view of the potential safety significance of the issue to be addressed in the requested information. Each such evaluation performed by the NRC staff shall be in accordance with 10 CFR 50.54(f) and shall be approved by the Executive Director for Operations or his or her designee prior to issuance of the request.

APPENDIX P TO PART 52—[RESERVED]

APPENDIX Q TO PART 52—PRE-APPLICATION EARLY REVIEW OF SITE SUITABILITY ISSUES

This appendix sets out procedures for the filing, Staff review, and referral to the Advisory Committee on Reactor Safeguards (ACRS) of requests for early review of one or more site suitability issues relating to the construction and operation of certain utilization facilities separately from and prior to the submittal of applications for construction permits for the facilities. The appendix also sets out procedures for the preparation and issuance of Staff Site Reports and for their incorporation by reference in applications for the construction and operation of certain utilization facilities. The utilization facilities are those which are subject to § 51.20(b) of this chapter and are of the type specified in § 50.21(b) (2) or (3) or § 50.22 of this chapter or are testing facilities. This appendix does not apply to proceedings conducted pursuant to subpart F or part 2 of this chapter.

1. Any person may submit information regarding one or more site suitability issues to the Commission's Staff for its review separately from and prior to an application for a construction permit for a facility. Such a submittal shall be accompanied by any fee required by part 170 of this chapter and shall consist of the portion of the information required of applicants for construction permits by §§ 50.33 (a)–(c) and (e) of this chapter, and, insofar as it relates to the issue(s) of site suitability for which early review is sought, by §§ 50.34(a)(1) and 50.30(f) of this chapter, except that information with respect to operation of the facility at the projected initial power level need not be supplied.

2. The submittal for early review of site suitability issue(s) must be made in the same manner and in the same number of copies as provided in §§ 50.4 and 50.30 of this chapter for license applications. The submittal must include sufficient information concerning range of postulated facility design and operation parameters to enable the Staff to perform the requested review of site suitability issues. The submittal must contain suggested conclusions on the issues of site suitability submitted for review and must be accompanied by a statement of the bases or the reasons for those conclusions. The submittal must also list, to the extent

possible, any long-range objectives for ultimate development of the site, state whether any site selection process was used in preparing the submittal, describe any site selection process used, and explain what consideration, if any, was given to alternative sites.

3. The staff shall publish a note of docketing of the submittal in the FEDERAL REGISTER, and shall send a copy of the notice of docketing to the Governor or other appropriate official of the State in which the site is located. This notice shall identify the location of the site, briefly describe the site suitability issue(s) under review, and invite comments from Federal, State, and local agencies and interested persons within 120 days of publication or such other time as may be specified, for consideration by the staff in connection with the initiation or outcome of the review and, if appropriate by the ACRS, in connection with the outcome of their review. The person requesting review shall serve a copy of the submittal on the Governor or other appropriate official of the State in which the site is located, and on the chief executive of the municipality in which the site is located or, if the site is not located in a municipality, on the chief executive of the county. The portion of the submittal containing information requested of applicants for construction permits by §§ 50.33 (a)-(c) and (e) and 50.34(a)(1) of this chapter will be referred to the ACRS for a review and report. There will be no referral to the ACRS unless early review of the site safety issues under § 50.34(a)(1) is requested.

4. Upon completion of review by the staff and, if appropriate by the ACRS, of a submittal under this appendix, the staff shall prepare a Staff Site Report which shall identify the location of the site, state the site suitability issues reviewed, explain the nature and scope of the review, state the conclusions of the staff regarding the issues reviewed and state the reasons for those conclusions. Upon issuance of a Staff Site Report, the staff shall publish a notice of the availability of the report in the FEDERAL REGISTER and shall place copies of the report in the Commission's Public Document at 2120 L Street NW., Lower Level (Room LL-6), Washington, DC 20037, and in a Local Public Document Room(s) located near the site identified in the Staff Site Report. The staff shall also send a copy of the report to the Governor or other appropriate official of the State in which the site is located, and to the chief executive of the municipality in which the site is located or, if the site is not located in a municipality, to the chief executive of the county.

5. Any Staff Site Report prepared and issued in accordance with this appendix may be incorporated by reference, as appropriate, in an application for a construction
permit for a utilization facility which is sub
ject to § 51.20(b) of this chapter and is o
the type specific in § 50.21(b) (2) or (3) o
§ 50.22 of this chapter or is a testing facility
The conclusions of the Staff Site Repor
will be reexamined by the staff where fiv
years or more have elapsed between the is
suance of the Staff Site Report and its in
corporation by reference in a constructio
permit application.

6. Issuance of a Staff Site Report shall no
constitute a commitment to issue a permi
or license, to permit on-site work unde
§ 50.10(e) of this chapter, or in any wa
affect the authority of the Commissio
Atomic Safety and Licensing Appeal Pane
Atomic Safety and Licensing Board Pane
and other presiding officers in any procee
ing under subpart F and/or G of part 2 o
this chapter.

7. The staff will not conduct more tha
one review of site suitability issues wit
regard to a particular site prior to the fu
construction permit review required by sub
part A of part 51 of this chapter. The sta
may decline to prepare and issue a Sta
Site Report in response to a submittal unde
this appendix where it appears that, (a) i
cases where no review of the relative meri
of the submitted site and alternative site
under subpart A of part 51 of this chapter i
requested, there is a reasonable likelihoo
that further staff review would identify on
or more preferable alternative sites and th
staff review of one or more site suitabilit
issues would lead to an irreversible and irre
trievable commitment of resources prior t
the submittal of the analysis of alternativ
sites in the Environmental Report tha
would prejudice the later review and dec
sion on alternative sites under subpart
and/or G of part 2 and subpart A of part 5
of this chapter; or (b) in cases where, in th
judgment of the staff, early review of an
site suitability issue or issues would not b
in the public interest, considering (1) th
degree of likelihood that any early finding
on those issues would retain their validity i
later reviews, (2) the objections, if any, o
cognizant state or local government agen
cies to the conduct of an early review o
those issues, and (3) the possible effect o
the public interest of having an early, if no
necessarily conclusive, resolution of thos
issues.

PART 53—CRITERIA AND PROCEDURES FOR DETERMINING THE ADEQUACY OF AVAILABLE SPENT NUCLEAR FUEL STORAGE CAPACITY

Subpart A—General Provisions

Sec.
53.1 Purpose and scope.
53.2 Definitions.
53.3 Communications.
53.4 Interpretations.
53.5 Information collection requirements.
53.6 Specific exemptions.

Subpart B—Request for a Commission Determination

53.11 Filing and distribution of a determination request.
53.12 Contents of a request: General information.
53.13 Contents of a request: Alternatives.
53.14 Additional information.
53.15 Withdrawal of a determination request.
53.16 Elimination of repetition.

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53.28 Final determination.
53.29 Notice of issuance of a final determination.
53.30 Criteria for a Commission determination.

AUTHORITY: Secs. 53, 57, 62, 63, 65, 69, 81, 103, 104, 161, 68 Stat. 930, 932, 933, 934, 935, 936, 937, 948, as amended (42 U.S.C. 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2133, 2134, 2201); secs. 201, 209, as amended, 88 Stat. 1242, 1248, as amended (42 U.S.C. 5841, 5849); secs. 132, 135, 96 Stat. 2230, 2232 (42 U.S.C. 10152, 10155).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 53.11, 53.12, 53.13, 53.14, and 53.16 are issued under sec. 161(o), 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 50 FR 5563, Feb. 11, 1985, unless otherwise noted.

Subpart A—General Provisions

§ 53.1 Purpose and scope.

(a) The regulations in this part establish procedures and criteria for making the determination required by section 135(b) of the Nuclear Waste Policy Act of 1982 (96 Stat. 2201 and 2233) that a person owning or operating a civilian nuclear power reactor cannot reasonably provide adequate spent nuclear fuel storage capacity at the reactor site, or at the site of any other reactor operated by that person, when needed to ensure the continued orderly operation of the reactor, and that such person is diligently pursuing licensed alternatives to the use of Federal storage capacity for the storage of spent nuclear fuel expected to be generated by such person in the future.

(b) The regulations in this part apply to any person owning or operating a civilian nuclear power reactor who requests a Commission determination.

§ 53.2 Definitions.

As used in this part:

Civilian nuclear power reactor means—a civilian nuclear power plant required to be licensed as a utilization facility under Sections 103 or 104(b) of the Atomic Energy Act of 1954.

Commission means—the Nuclear Regulatory Commission or its duly authorized representatives.

Full core reserve means—the capability to store all of the fuel in a single reactor core at one time at an on-site storage facility.

Spent nuclear fuel means—fuel that has been withdrawn from a nuclear power reactor following irradiation, the constituent elements of which have not been separated by reprocessing.

§ 53.3 Communications.

Except where otherwise specified, each communication and report concerning the regulations in this part should be addressed to the Document Control Desk, U.S. Nuclear Regulatory Commission, Attention: Executive Director for Operations, Washington, DC 20555, or may be delivered in person to the Commission's Document Control Desk between the hours of 8:15 a.m. and 4:00 p.m. Eastern Time at 11555 Rockville Pike, Rockville, MD.

[53 FR 6139, Mar. 1, 1988]

§ 53.4 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than written interpretation by the General Counsel will be considered binding on the Commission.

§ 53.5 Information collection requirements.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (42 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0126.

(b) The approved information collection requirements in this part appear in §§ 53.11, 53.12, 53.13, and 53.14.

§ 53.6 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemption from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

Subpart B—Request for a Commission Determination

§ 53.11 Filing and distribution of a determination request.

(a) The person submitting a request for a Commission determination must file a signed original and 9 copies of the request with the Commission at the address specified in § 53.3, with a copy also provided to the appropriate Regional Administrator at the address specified in appendix D to part 20 of this chapter. The request must be signed by the person requesting the determination or the person's authorized representative under oath or affirmation.

(b) Any request for a Commission determination under this part, must be filed no later than June 30, 1989. An exception to this requirement may be granted if the Commission determines that:

(1) The request is likely to be proc
essed and the determination mad
prior to January 1, 1990; and

(2) The person requesting the deter
mination has shown good cause fo
the failure to file on time.

(c) Upon receipt of a request for
determination, the Secretary of th
Commission will cause to be publishe
in the FEDERAL REGISTER a notice of re
ceipt of the request and the opportu
nity for a 30-day public commen
period on the request. A copy of th
request will be made available fo
public inspection in the Commission'
Public Document Room, 2120 L Stree
NW., Washington, DC, and in th
Local Public Document Room for th
reactor site. The Secretary of th
Commission will also transmit a cop
of the request to the Office of Civilia
Radioactive Waste Management of th
U.S. Department of Energy.

(d) Fees applicable to a request for
Commission determination under thi
part will be determined in accordanc
with the procedures set forth for spe
cial projects under category 12 c
§ 170.31 of this chapter.

(e) In the event that the Depar
ment of Energy has entered into con
tracts for the full amount of spen
fuel authorized for Federal interin
storage under section 135(a) of the Nu
clear Waste Policy Act, the Commis
sion may suspend the processing or ac
ceptance of requests for determina
tions until additional interim Federa
storage capacity is authorized.

[50 FR 5563, Feb. 11, 1985; 50 FR 8606, Ma
4, 1985, as amended at 53 FR 43421, Oct. 2
1988.]

§ 53.12 Contents of request: General info mation.

A request for a Commission determ
nation under this part must includ
the following general information:

(a) Name and address of the perso
owning or generating the spent nucle
ar fuel for which the determination
sought,

(b) The civilian nuclear power rea
tor or reactor site for which the r
quest is being made,

(c) Explanation of why the determ
nation described in § 53.1(a) is neede
including—

(1) A complete history of fueling/refueling cycles for each reactor at the reactor site from beginning of operation to date of request;

(2) Projected refueling cycles for each reactor from date of request through operating life of plant, including anticipated maintenance schedules;

(3) A schedule of all actions taken to provide storage for spent nuclear fuel generated by each reactor from the beginning of operation to date of request, with a projection of the amount of capacity still available in terms of number of assemblies and metric tons of uranium (MTU) of spent nuclear fuel and time remaining until loss of full core reserve discharge capability;

(4) A schedule of all actions planned or currently underway to provide additional storage, with the projected amount of additional capacity to be provided by these actions;

(5) The amount and geographical location of any spent nuclear fuel stored offsite, and the anticipated duration of offsite storage;

(6) The anticipated date of loss of full core reserve;

(7) An estimate of the amount of spent nuclear fuel and the schedule for its storage for which Federal interim storage would be necessary to prevent the loss of full core reserve;

(8) For a request related to a multireactor site, the necessity of maintaining reserve storage capability of more than one full core reserve; and

(9) Any other information which the Commission should consider in making its determination.

[50 FR 5563, Feb. 11, 1985; 50 FR 8606, Mar. 4, 1985]

§ 53.13 Contents of a request: Alternatives.

(a) The request must include, for each alternative spent nuclear fuel storage technology listed in paragraph (c) of this section, an analysis of any substantial technical, economic, regulatory, or public health and safety constraints that would make the implementation of any of the alternatives unreasonable, including factors such as:

(1) Structural limitations;

(2) The extent to which implementation would disrupt operation of the reactor;

(3) Unavailability of necessary materials or equipment;

(4) Inability to meet the Commission's regulatory requirements due to factors beyond the licensee's control and despite the licensee's good faith efforts;

(5) Local or State laws and regulatory actions, including preexisting agreements, that limit or prevent the timely expansion or addition of storage capacity or transshipment;

(6) Unusual licensing delays;

(7) The time required for licensing, design, and construction;

(8) Extraordinary costs of implementation, including the costs of providing the necessary additional capacity, and the time for which the capacity is needed; and

(9) Radiation exposure considerations.

(b) The request must include, for each alternative spent nuclear fuel storage technology listed in paragraph (c) of this section, detailed information on the actions that the person requesting the determination has taken to date to avoid or reduce the need for Federal interim storage, including—

(1) The timing and description of each license application and study done by or for the person; and

(2) The amount of time that the person estimates would be required to develop, have approved, and implement any alternatives that are still under consideration.

(c) For the purposes of this part, spent nuclear fuel storage alternatives include—

(1) Expansion of existing storage facilities, including high-density fuel storage racks or fuel rod compaction;

(2) Construction of new or additional spent nuclear fuel storage facilities at the site of any civilian nuclear power reactor operated by such person;

(3) Acquisition of modular or mobile spent nuclear fuel storage equipment, including spent nuclear fuel storage casks, for use at the site of any civilian nuclear power reactor operated by such person;

(4) Transshipment of spent nuclear fuel to the site of another civilian nu-

clear power reactor within the same utility system; and

(5) Such other technologies for spent nuclear fuel storage as may be approved by the Commission for use at the sites of civilian nuclear power reactors.

[50 FR 5563, Feb. 11, 1985; 50 FR 8606, Mar. 4, 1985]

§ 53.14 Additional information.

(a) The Commission, the EDO, or designee, as appropriate, may require additional information from a person making a request for Commission determination under this part concerning any portion of the request.

(b) The Commission, the EDO, or designee, may deny a request for a Commission determination under this part if the person making the request fails to respond to a request for additional information under paragraph (a) of this section within thirty (30) days from the date of the request for additional information, or such other time as the Commission, Executive Director, or designee, may specify. This denial shall be without prejudice to the right of the person making the request to file another request for a Commission determination under this part.

§ 53.15 Withdrawal of a determination request.

(a) A person may withdraw a request for a Commission determination under this part without prejudice at any time prior to the issuance of an initial determination under § 53.27.

(b) The Secretary of the Commission will cause to be published in the FEDERAL REGISTER a notice of the withdrawal of a request for a Commission determination under this part.

§ 53.16 Elimination of repetition.

In any request under this part, the person making the request may incorporate by reference information contained in a previous application, statement, or report filed with the Commission provided that these references are clear and specific.

Subpart C—Issuance of a Commissio
Determination

§ 53.27 Initial determination.

(a) Not later than four (4) month
after the receipt of a request for
Commission determination under th
part from a person generating
owning spent nuclear fuel, the Exec
tive Director for Operations, or desi
nee, shall make an initial determin
tion of whether—

(1) Adequate storage capacity
ensure the continued orderly ope
ation of the civilian nuclear power r
actor at which the spent nuclear fu
is generated cannot reasonably be pr
vided by the person owning or opera
ing the reactor at that site, or at th
site of any other civilian nucle
power reactor operated by the perso
and that the capacity cannot be ma
available in a timely manner throu
any method described in § 53.13(c) d
spite the licensee's diligent and go
faith efforts to pursue such metho
and

(2) That person is diligently purs
ing licensed alternatives to the use
Federal storage capacity for the sto
age of spent nuclear fuel expected
be generated by the person in th
future, so as to ensure the availabili
of additional storage capacity as soo
as possible by means of the spent fu
storage alternatives listed in § 53.13(

(b) In making an initial determin
tion under this section, the Executi
Director for Operations, or designe
shall be guided by the criteria s
forth in § 53.30.

(c) An initial determination und
this section shall be in writing a
shall contain a full explanation of t
facts upon which the determination
based and the reasons for granting
denying the request. An affirmati
determination shall specify t
amount of spent nuclear fuel th
cannot reasonably be stored on s
and the schedule for when Feder
storage is needed, and may conta
conditions on which the determinati
is dependent. A copy of the initial d
termination shall be sent to t
person who filed the request.

(d) If a request for a determinati
is based on circumstances that are t

remote and speculative to allow an informed determination, the Commission, the EDO, or designee, may deny the request.

§ 53.28 Final determination.

(a) An initial determination under § 53.27 shall be filed with the Office of the Secretary of the Commission. Such initial determination shall constitute the final determination of the Commission thirty (30) days after its issuance, unless the Commission decides to review the initial determination under paragraph (b) of this section.

(b) Within thirty days after the Executive Director for Operations, or designee, makes an initial determination, the Commission may, on its own motion, review the determination.

(c) The Commission may, at its discretion, extend the time for review of an initial determination under paragraph (b) of this section; provided, however, that if the Commission has not completed its review or issued a final determination within six (6) months of the filing of a request under this part, the initial determination of the Executive Director for Operations, or his or her designee, shall constitute the final determination of the Commission.

(d) No petition or other request for Commission review of an initial determination under § 53.27 will be entertained by the Commission.

§ 53.29 Notice of issuance of a final determination.

(a) Upon the issuance of a final Commission determination or after the expiration of the time for Commission review of an initial determination under § 53.28, which constitutes a final determination, the Secretary of the Commission will notify, in writing, the person making the request, and the Office of Civilian Radioactive Waste Management of the Department of Energy of the final determination.

(b) The Secretary of the Commission will cause to be published in the FEDERAL REGISTER a notice of the issuance of the final determination.

(c) The Secretary of the Commission will make a copy of the final determination available for public inspection in the Commission's Public Document Room, 2120 L Street NW., Washington, DC, and in the Local Public Document Room for the reactor site

[50 FR 5563, Feb. 11, 1985, as amended at 53 FR 43421, Oct. 27, 1988]

§ 53.30 Criteria for a Commission determination.

(a) In making the determination required by § 53.27(a)(1), the Commission shall consider the existence of technical, economic, regulatory, or health and safety factors that would make the implementation of any alternative to Federal interim storage of spent nuclear fuel set forth in § 53.13(c) unreasonable, such as—

(1) Suitability of the reactor site for implementation of an alternative, including consideration of structural integrity.

(2) Inability to meet the Commission's regulatory requirements for implementation and licensing of an alternative due to factors beyond the licensee's control and despite the licensee's diligent and good faith efforts.

(3) Inability to obtain necessary materials or equipment in a timely manner.

(4) Modifications that would result in the excessive reduction of code design margins.

(5) Extraordinary costs of implementation that are clearly unreasonable in view of such factors as the amount of additional storage capacity needed, the time for which additional storage capacity is needed, or the cost of Federal interim storage.

(6) Unforeseen or unavoidable delays in the licensing or implementation of an alternative due to factors beyond the licensee's control and despite the licensee's diligent and good faith efforts.

(7) Legal impediments to the implementation of an alternative, such as State or local laws or regulatory actions, including preexisting agreements, pertaining to matters within the jurisdiction of those levels of government, which are valid and enforceable or, though not valid, cannot reasonably be invalidated or enforcement enjoined in a timely manner.

(8) Occupational or off-site radiation exposures or on-site construction hazards that are clearly unreasonable in view of the amount of additional storage capacity needed or the time for which additional storage capacity is needed.

(b) Solely for the purpose of making the determination required by § 53.27(a)(1), the Commission shall ensure the maintenance of a full core reserve at the site of the civilian nuclear power reactor for which the request is being made.

(c) If the person requesting the determination demonstrates, and the Commission finds, that the maintenance of a single full core reserve at the reactor site is either inadequate or not necessary for continued orderly operation of the reactor, the Commission may make an exception to the provision of paragraph (b) of this section.

(d) In making the determination required by § 53.27(a)(2), the Commission will consider whether the person submitting the request has demonstrated diligent and timely efforts to initiate activities reasonably calculated to implement alternatives to Federal interim storage of spent fuel on a schedule commensurate with the need to support the continued orderly operation of the reactor, including—

(1) Diligent and good faith efforts to prepare and file existing license application(s) for spent nuclear fuel storage alternative(s) as early as possible so as to provide sufficient time to allow for design, licensing, and implementation; and

(2) Subsequent developments beyond the control of the person submitting the request that

(i) Have changed the original estimate of when and how much additional storage capacity will be needed or

(ii) Would prevent the timely implementation of one or more alternatives; and

(3) The timely preparation and implementation of a spent nuclear fuel storage program or plan that evaluates the feasibility of alternatives to Federal storage of spent nuclear fuel, taking into account technical, economic, regulatory, and public health and safety factors and that includes the prompt development of feasible alternatives to Federal storage.

[50 FR 5563, Feb. 11, 1985; 50 FR 8606, Mar. 4, 1985]

PART 55—OPERATORS' LICENSES

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Sec.

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55.71 Violations.

AUTHORITY: Sec. 107, 161, 182, 68 Stat. 939, 948 953, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2137, 2201, 2232, 2282); secs. 201, as amended, 202, 88 Stat. 1242, as amended, 1244 (42 U.S.C. 5841, 5842).

Sections 55.41, 55.43, 55.45, and 55.59 also issued under sec. 306, Pub. L. 97-425, 96 Stat. 2262 (42 U.S.C. 10226). Section 55.61 also issued under secs. 186, 187, 68 Stat. 955 (42 U.S.C. 2236, 2237).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 55.3, 55.21, 55.49, and 55.53 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 55.9, 55.23, 55.25, and 55.53(f) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 52 FR 9460, Mar. 25, 1987, unless otherwise noted.

Subpart A—General Provisions

§ 55.1 Purpose.

The regulations in this part:

(a) Establish procedures and criteria for the issuance of licenses to operators and senior operators of utilization facilities licensed pursuant to the Atomic Energy Act of 1954, as amended, or section 202 of the Energy Reorganization Act of 1974, as amended, and part 50 of this chapter,

(b) Provide for the terms and conditions upon which the Commission will issue or modify these licenses, and

(c) Provide for the terms and conditions to maintain and renew these licenses.

§ 55.2 Scope.

The regulations in this part apply to—

(a) Any individual who manipulates the controls of any utilization facility licensed pursuant to part 50 of this chapter, and

(b) Any individual designated by a facility licensee to be responsible for directing any licensed activity of a licensed operator.

§ 55.3 License requirements.

A person must be authorized by a license issued by the Commission to perform the function of an operator or a senior operator as defined in this part.

§ 55.4 Definitions.

As used in this part:

Act means the Atomic Energy Act of 1954, including any amendments to the Act.

Actively performing the functions of an operator or senior operator means that an individual has a position on the shift crew that requires the individual to be licensed as defined in the facility's technical specifications, and that the individual carries out and is responsible for the duties covered by that position.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Controls when used with respect to a nuclear reactor means apparatus and mechanisms the manipulation of which directly affects the reactivity or power level of the reactor.

Facility means any utilization facility as defined in part 50 of this chapter. In cases for which a license is issued for operation of two or more facilities, *facility* means all facilities identified in the license.

Facility licensee means an applicant for or holder of a license for a facility.

Licensee means an individual licensed operator or senior operator.

Operator means any individual licensed under this part to manipulate a control of a facility.

Performance testing means testing conducted to verify a simulation facility's performance as compared to actual or predicted reference plant performance.

Physician means an individual licensed by a State or territory of the United States, the District of Columbia or the Commonwealth of Puerto Rico to dispense drugs in the practice of medicine.

Plant-referenced simulator means a simulator modeling the systems of the reference plant with which the operator interfaces in the control room, including operating consoles, and which permits use of the reference plant's procedures. A plant-referenced simulator demonstrates expected plant response to operator input, and to normal, transient, and accident conditions to which the simulator has been designed to respond.

Reference plant means the specific nuclear power plant from which a simulation facility's control room configuration, system control arrangement, and design data are derived.

Senior operator means any individual licensed under this part to manipulate the controls of a facility and to direct the licensed activities of licensed operators.

Simulation facility means one or more of the following components, alone or in combination, used for the partial conduct of operating tests for operators, senior operators, and candidates:

(1) The plant,

(2) A plant-referenced simulator,

(3) Another simulation device.

Systems approach to training means a training program that includes the following five elements:

(1) Systematic analysis of the jobs to be performed.

(2) Learning objectives derived from the analysis which describe desired performance after training.

(3) Training design and implementation based on the learning objectives.

(4) Evaluation of trainee mastery of the objectives during training.

(5) Evaluation and revision of the training based on the performance of trained personnel in the job setting.

United States, when used in a geographical sense, includes Puerto Rico and all territories and possessions of the United States.

§ 55.5 Communications.

(a) Except as provided under a regional licensing program identified in paragraph (b) of this section, an applicant or licensee or facility licensee shall submit any communication or report concerning the regulations in this part and shall submit any application filed under these regulations to the Commission as follows:

(1) By mail addressed to—Director of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, or

(2) By delivery in person to the Commission's offices at 2120 L Street NW., Washington, DC, or at 11555 Rockville Pike, Rockville, MD.

(b)(1) Except for test and research reactor facilities, the Director of Nuclear Reactor Regulation has delegated to the Regional Administrators of Regions I, II, III, IV and V authority and responsibility pursuant to the regulations in this part for the issuance and renewal of licenses for operators and senior operators of nuclear power reactors licensed under 10 CFR part 50 and located in these regions.

(2) Any application for a license or license renewal filed under the regulations in this part involving a nuclear power reactor licensed under 10 CFR part 50 and any related inquiry, communication, information, or report must be submitted by mail or in person to the Regional Administrator. The Regional Administrator or the Administrator's designee will transmit to the Director of Nuclear Reactor Regulation any matter that is not within the scope of the Regional Administrator's delegated authority.

(i) If the nuclear power reactor is located in Region I, submission must be made to the Regional Administrator, Region I, U.S. Nuclear Regulatory Commission, 475 Allendale Road, King of Prussia, PA 19406.

(ii) If the nuclear power reactor is located in Region II, submission must be made to the Regional Administrator, Region II, U.S. Nuclear Regulatory Commission, 101 Marietta Street, suite 2900, Atlanta, GA 30323.

(iii) If the nuclear power reactor is located in Region III, submission must be made to the Regional Administrator, Region III, U.S. Nuclear Regulatory Commission, 799 Roosevelt Road, Glen Ellyn, IL 60137.

(iv) If the nuclear power reactor is located in Region IV, submission must be made to the Regional Administrator, Region IV, U.S. Nuclear Regulatory Commission, 611 Ryan Plaza Drive, suite 1000, Arlington, TX 76011.

(v) If the nuclear power reactor is located in Region V, submission must be made to the Regional Administrator, Region V, U.S. Nuclear Regulatory Commission, 1450 Maria Lane, suite 210, Walnut Creek, CA 94596.

(3)(i) Any application for a license or license renewal filed under the regulations in this part involving a test and research reactor facility licensed under 10 CFR part 50 and any related inquiry, communication, information, or report must be submitted by mail or in person to the Division of Licensee Performance and Quality Evaluation at the U.S. Nuclear Regulatory Commission Headquarters in Washington, DC.

(ii) For all test and research reactor facilities located in Regions I, II, III, IV, and V, submissions must be made to the Director, Division of Licensee Performance and Quality Evaluation, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Attention: Operator Licensing Branch.

[52 FR 9460, Mar. 25, 1987, as amended at 53 FR 6139, Mar. 1, 1988; 53 FR 43421, Oct. 27, 1988; 55 FR 41335, Oct. 11, 1990]

§ 55.6 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 55.7 Additional requirements.

The Commission may, by rule, regulation, or order, impose upon any licensee such requirements, in addition to those established in the regulations in this part, as it deems appropriate or necessary to protect health and to minimize danger to life or property.

§ 55.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0018.

(b) The approved information collection requirements contained in this part appear in §§ 55.45, 55.53, and § 55.59.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In §§ 55.23, 55.25, 55.27, 55.31, Form NRC-396 is approved under control number 3150-0024.

(2) In §§ 55.31, 55.35, 55.47, and 55.57, Form NRC-398 is approved under control number 3150-0090.

(3) In § 55.45, Form NRC-474 is approved under control number 3150-0138.

§ 55.9 Completeness and accuracy of information.

Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

[52 FR 49372, Dec. 31, 1987]

Subpart B—Exemptions

§ 55.11 Specific exemptions.

The Commission may, upon application by an interested person, or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property and are otherwise in the public interest.

§ 55.13 General exemptions.

The regulations in this part do not require a license for an individual who—

(a) Under the direction and in the presence of a licensed operator or senior operator, manipulates the controls of—

(1) A research or training reactor as part of the individual's training as a student, or

(2) A facility as a part of the individual's training in a facility licensee's training program as approved by the

Commission to qualify for an operator license under this part.

(b) Under the direction and in the presence of a licensed senior operator, manipulates the controls of a facility to load or unload the fuel into, out of, or within the reactor vessel.

Subpart C—Medical Requirements

§ 55.21 Medical examination.

An applicant for a license shall have a medical examination by a physician. A licensee shall have a medical examination by a physician every two years. The physician shall determine that the applicant or licensee meets the requirements of § 55.33(a)(1).

§ 55.23 Certification.

To certify the medical fitness of the applicant, an authorized representative of the facility licensee shall complete and sign Form NRC-396, "Certification of Medical Examination by Facility Licensee," available from Records and Reports Management Branch, Division of Information Support Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(a) Form NRC-396 must certify that a physician has conducted the medical examination of the applicant as required in § 55.21.

(b) When the certification requests a conditional license based on medical evidence, the medical evidence must be submitted on NRC Form 396 to the Commission and the Commission then makes a determination in accordance with § 55.33.

[52 FR 9460, Mar. 25, 1987, as amended at 53 FR 43421, Oct. 27, 1988]

§ 55.25 Incapacitation because of disability or illness.

If, during the term of the license, the licensee develops a physical or mental condition that causes the licensee to fail to meet the requirements of § 55.21 of this part, the facility licensee shall notify the Commission within 30 days of learning of the diagnosis. For conditions for which a conditional license (as describing in § 55.33(b) of this part) is requested, the facility licensee shall provide medical certification on Form NRC 396 to the Commission (as described in § 55.23 of this part).

§ 55.27 Documentation.

The facility licensee shall document and maintain the results of medical qualifications data, test results, and each operator's or senior operator's medical history for the current license period and provide the documentation to the Commission upon request. The facility licensee shall retain this documentation while an individual performs the functions of an operator or senior operator.

Subpart D—Applications

§ 55.31 How to apply.

(a) The applicant shall:

(1) Complete Form NRC-398, "Personal Qualification Statement—Licensee," available from Records and Reports Management Branch, Division of Information Support Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

(2) File an original and two copies of Form NRC-398, together with the information required in paragraphs (a)(3), (4), (5) and (6) of this section, with the appropriate Regional Administrator;

(3) Submit a written request from an authorized representative of the facility licensee by which the applicant will be employed that the written examination and operating test be administered to the applicant;

(4) Provide evidence that the applicant has successfully completed the facility licensee's requirements to be licensed as an operator or senior operator and of the facility licensee's need for an operator or a senior operator to perform assigned duties. An authorized representative of the facility licensee shall certify this evidence on Form NRC-398. This certification must include details of the applicant's qualifications, and details on courses of instruction administered by the facility licensee, and describe the nature of the training received at the facility, and the startup and shutdown experience received. In lieu of these details, the Commission may accept certification that the applicant has successful-

completed a Commission-approved
aining program that is based on a
stems approach to training and that
es a simulation facility acceptable to
e Commission under § 55.45(b) of
is part;

(5) Provide evidence that the appli-
nt, as a trainee, has successfully ma-
pulated the controls of the facility
r which a license is sought. At a min-
aum, five significant control manipu-
tions must be performed which
fect reactivity or power level. For a
cility that has not completed preo-
erational testing and initial startup
st program as described in its Final
afety Analysis Report, as amended
nd approved by the Commission, the
ommission may accept evidence of
tisfactory performance of simulated
ontrol manipulations as part of a
ommission-approved training pro-
ram by a trainee on a simulation fa-
lity acceptable to the Commission
nder § 55.45(b) of this part. For a fa-
lity which has (i) completed preoper-
tional testing as described in its Final
afety Analysis Report, as amended
nd approved by the Commission, and
i) is in an extended shutdown which
recludes manipulation of the control
f the facility in the control room, the
ommission may process the applica-
on and may administer the written
xamination and operating test re-
uired by §§ 55.41 or 55.43 and 55.45 of
his part, but may not issue the license
ntil the required evidence of control
nanipulations is supplied. For licensed
perators applying for a senior opera-
or license, certification that the oper-
tor has successfully operated the con-
rols of the facility as a licensed opera-
or shall be accepted; and

(6) Provide certification by the facil-
ty licensee of medical condition and
eneral health on Form NRC-396, to
omply with §§ 55.21, 55.23 and
5.33(a)(1).

(b) The Commission may at any
ime after the application has been
iled, and before the license has ex-
ired, require futher information
nder oath or affirmation in order to
nable it to determine whether to
rant or deny the application or
whether to revoke, modify, or suspend
he license.

(c) An applicant whose application has been denied because of a medical condition or general health may submit a further medical report at any time as a supplement to the application.

(d) Each application and statement must contain complete and accurate disclosure as to all matters required to be disclosed. The applicant shall sign statements required by paragraphs (a)(1) and (2) of this section.

[52 FR 9460, Mar. 25, 1987, as amended at 53 FR 43421, Oct. 27, 1988]

§ 55.33 Disposition of an initial application.

(a) *Requirements for the approval of an initial application.* The Commission will approve an initial application for a license pursuant to the regulations in this part, if it finds that—

(1) *Health.* The applicants medical condition and general health will not adversely affect the performance of assigned operator job duties or cause operational errors endangering public health and safety. The Commission will base its finding upon the certification by the facility licensee as detailed in § 55.23.

(2) *Written examination and operating test.* The applicant has passed the requisite written examination and operating test in accordance with §§ 55.41 and 55.45 or 55.43 and 55.45. These examinations and tests determine whether the applicant for an operator's license has learned to operate a facility competently and safely, and additionally, in the case of a senior operator, whether the applicant has learned to direct the licensed activities of licensed operators competently and safely.

(b) *Conditional license.* If an applicant's general medical condition does not meet the minimum standards under § 55.33(a)(1) of this part, the Commission may approve the application and include conditions in the license to accommodate the medical defect. The Commission will consider the recommendations and supporting evidence of the facility licensee and of the examining physician (provided on Form NRC-396) in arriving at its decision.

§ 55.35 Re-applications.

(a) An applicant whose application for a license has been denied because of failure to pass the written examination or operating test, or both, may file a new application two months after the date of denial. The application must be submitted on Form NRC-398 and include a statement signed by an authorized representative of the facility licensee by whom the applicant will be employed that states in detail the extent of the applicant's additional training since the denial and certifies that the applicant is ready for re-examination. An applicant may filed a third application six months after the date of denial of the second application, and may file further successive applications two years after the date of denial of each prior application. The applicant shall submit each successive application on Form NRC-398 and include a statement of additional training.

(b) An applicant who has passed either the written examination or operating test and failed the other may request in a new application on Form NRC-398 to be excused from re-examination on the portions of the examination or test which the applicant has passed. The Commission may in its discretion grant the request, if it determines that sufficient justification is presented.

Subpart E—Written Examinations and Operating Tests

§ 55.41 Written examination: Operators.

(a) *Content.* The written examination for an operator will contain a representative selection of questions on the knowledge, skills, and abilities needed to perform licensed operator duties. The knowledge, skills, and abilities will be identified, in part, from learning objectives derived from a systematic analysis of licensed operator duties performed by each facility licensee and contained in its training program and from information in the Final Safety Analysis Report, system description manuals and operating procedures, facility license and license amendments, Licensee Event Reports, and other materials requested from the facility licensee by the Commission.

(b) The written examination for an operator for a facility will include a representative sample from among the following 14 items, to the extent applicable to the facility.

(1) Fundamentals of reactor theory, including fission process, neutron multiplication, source effects, control rod effects, criticality indications, reactivity coefficients, and poison effects.

(2) General design features of the core, including core structure, fuel elements, control rods, core instrumentation, and coolant flow.

(3) Mechanical components and design features of the reactor primary system.

(4) Secondary coolant and auxiliary systems that affect the facility.

(5) Facility operating characteristics during steady state and transient conditions, including coolant chemistry, causes and effects of temperature, pressure and reactivity changes, effects of load changes, and operating limitations and reasons for these operating characteristics.

(6) Design, components, and functions of reactivity control mechanisms and instrumentation.

(7) Design, components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

(8) Components, capacity, and functions of emergency systems.

(9) Shielding, isolation, and containment design features, including access limitations.

(10) Administrative, normal, abnormal, and emergency operating procedures for the facility.

(11) Purpose and operation of radiation monitoring systems, including alarms and survey equipment.

(12) Radiological safety principles and procedures.

(13) Procedures and equipment available for handling and disposal of radioactive materials and effluents.

(14) Principles of heat transfer thermodynamics and fluid mechanics.

55.43 Written examination: Senior operators.

(a) *Content.* The written examina-
on for a senior operator will contain
representative selection of questions
n the knowledge, skills, and abilities
eeded to perform licensed senior op-
rator duties. The knowledge, skills,
nd abilities will be identified, in part,
rom learning objectives derived from
systematic analysis of licensed senior
perator duties performed by each fa-
ility licensee and contained in its
raining program and from informa-
on in the Final Safety Analysis
Report, system description manuals
nd operating procedures, facility li-
ense and license amendments, Licens-
e Event Reports, and other materials
equested from the facility licensee by
he Commission.

(b) The written examination for a
enior operator for a facility will in-
lude a representative sample from
mong the following seven items and
he 14 items specified in § 55.41 of this
art, to the extent applicable to the
acility:

(1) Conditions and limitations in the
acility license.

(2) Facility operating limitations in
he technical specifications and their
ases.

(3) Facility licensee procedures re-
uired to obtain authority for design
nd operating changes in the facility.

(4) Radiation hazards that may arise
uring normal and abnormal situa-
ions, including maintenance activities
nd various contamination conditions.

(5) Assessment of facility conditions
nd selection of appropriate proce-
ures during normal, abnormal, and
mergency situations.

(6) Procedures and limitations in-
olved in initial core loading, alter-
tions in core configuration, control
od programming, and determination
f various internal and external ef-
ects on core reactivity.

(7) Fuel handling facilities and pro-
edures.

§ 55.45 Operating tests.

(a) *Content.* The operating tests ad-
ministered to applicants for operator
and senior operator licenses in accord-
ance with paragraph (b)(1) of this sec-
tion are generally similar in scope. The content will be identified, in part, from learning objectives derived from a systematic analysis of licensed operator or senior operator duties performed by each facility licensee and contained in its training program and from information in the Final Safety Analysis Report, system description manuals and operating procedures, facility license and license amendments, Licensee Event Reports, and other materials requested from the facility licensee by the Commission. The operating test, to the extent applicable, requires the applicant to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a representative sample from among the following 13 items.

(1) Perform pre-startup procedures for the facility, including operating of those controls associated with plant equipment that could affect reactivity.

(2) Manipulate the console controls as required to operate the facility between shutdown and designated power levels.

(3) Identify annunciators and condition-indicating signals and perform appropriate remedial actions where appropriate.

(4) Identify the instrumentation systems and the significance of facility instrument readings.

(5) Observe and safely control the operating behavior characteristics of the facility.

(6) Perform control manipulations required to obtain desired operating results during normal, abnormal, and emergency situations.

(7) Safely operate the facility's head removal systems, including primary coolant, emergency coolant, and decay heat removal systems, and identify the relations of the proper operation of these systems to the operation of the facility.

(8) Safely operate the facility's auxiliary and emergency systems, including operation of those controls associated with plant equipment that could affect reactivity or the release of radioactive materials to the environment.

(9) Demonstrate or describe the use and function of the facility's radiation monitoring systems, inlcuding fixed radiation monitors and alarms, porta-

ble survey instruments, and personnel monitoring equipment.

(10) Demonstrate knowledge of significant radiation hazards, including permissible levels in excess of those authorized, and ability to perform other procedures to reduce excessive levels of radiation and to guard against personnel exposure.

(11) Demonstrate knowledge of the emergency plan for the facility, including, as appropriate, the operator's or senior operator's responsibility to decide whether the plan should be executed and the duties under the plan assigned.

(12) Demonstrate the knowledge and ability as appropriate to the assigned position to assume the responsibilities associated with the safe operation of the facility.

(13) Demonstrate the applicant's ability to function within the control room team as appropriate to the assigned position, in such a way that the facility licensee's procedures are adhered to and that the limitations in its license and amendments are not violated.

(b) *Implementation*—(1) *Administration.* The operating test will be administered in a plant walkthrough and in either—

(i) A simulation facility which the Commission has approved for use after application has been made by the facility licensee, or

(ii) A simulation facility consisting solely of a plant-referenced simulator which has been certified to the Commission by the facility licensee.

(2) *Schedule for facility licensees.* (i) Within one year after the effective date of this part, each facility licensee which proposes to use a simulation facility pursuant to paragraph (b)(1)(i) of this section, except test and research reactors, shall submit a plan by which its simulation facility will be developed and by which an application will be submitted for its use.

(ii) Those facility licensees which propose to conform with paragraph (b)(1)(i) of this section, not later than 42 months after the effective date of this rule, shall submit an application for use of this simulation facility to the Commission, in accordance with paragraph (b)(4)(i) of this section.

(iii) Those facility licensees which propose to conform with paragraph (b)(1)(ii) of this section, not later than 46 months after the effective date of this rule, shall submit a certification for use of this simulation facility to the Commission on Form NRC-474, "Simulation Facility Certification," available from Records and Reports Management Branch, Division of Information Support Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555, in accordance with paragraph (b)(5)(i) of this section.

(iv) The simulation facility portion of the operating test will not be administered on other than a certified or an approved simulation facility after May 26, 1991.

(3) *Schedule for facility applicants.* (i) For facility licensee applications after the effective date of this rule, except test and research reactors, the applicant shall submit a plan which identifies whether its simulation facility will conform with paragraph (b)(1)(i) or (b)(1)(ii) of this section at the time of application.

(ii) Those applicants which propose to conform with paragraph (b)(1)(i) of this section, not later than 180 days before the date when the applicant proposes that the Commission conduct operating tests, shall submit an application for use of its simulation facility to the NRC, in accordance with paragraph (b)(4)(i) of this section.

(iii) Those applicants which propose to conform with paragraph (b)(1)(ii) of this section, not later than 60 days before the date when the applicant proposes that NRC conduct operating tests, shall submit a certification for use of its simulation facility to the Commission on Form NRC-474, in accordance with paragraph (b)(5)(i) of this section.

(4) *Application for and approval of simulation facilities.* Those facility licensees which propose, in accordance with paragraph (b)(1)(i) of this section, to use a simulation facility that is other than solely a plant-referenced simulator as defined in § 55.4 shall—

(i) In accordance with the plan submitted pursuant to paragraph (b)(2)(i) or (b)(3)(i) of this section, as applicable submit an application for approval of the simulation facility to the Comission, in accordance with the sched-le in paragraph (b)(2)(ii) or (b)(3)(ii) f this section, as appropriate. This pplication must include:

(A) A statement that the simulation acility meets the plan submitted to ne Commission pursuant to para-raph (b)(2)(i) or (b)(3)(i) of this sec-ion, as applicable;

(B) A description of the components f the simulation facility which are in-ended to be used for each part of the perating test; and

(C) A description of the performance ests as part of the application, and ne results of such tests.

(ii) The Commission will approve a imulation facility if it finds that the imulation facility and its proposed se are suitable for the conduct of op-rating tests for the facility licensee's eference plant, in accordance with aragraph (a) of this section.

(iii) Submit, every four years on the nniversary of the application, a eport to the Commission which iden-ifies any uncorrected performance est failures, and submit a schedule for orrection of these performance test ailures, if any.

(iv) Retain the results of the per-ormance test conducted until four ears after the submittal of the appli-ation under paragraph (b)(4)(i), each eport pursuant to paragraph b)(4)(iii), or any reapplication under aragraph (b)(4)(iv) of this section, as ppropriate.

(v) If the Commission determines, ased upon the results of performance esting, that an approved simulation acility does not meet the require-nents of this part, the simulation fa-ility may not be used to conduct oper-ting tests.

(vi) If the Commission determines, ursuant to paragraph (b)(4)(v) of this ection, that an approved simulation acility does not meet the require-nents of this part, the facility licensee nay again submit an application for pproval. This application must in-lude a description of corrective ac-ions taken, including results of com-leted performance testing as required or approval.

(vii) Any application or report sub-nitted pursuant to paragraphs b)(4)(i), (b)(4)(iii) and (b)(4)(vi) of this section must include a description of the performance testing completed for the simulation facility, and must include a description of performance tests, if different, to be conducted on the simulation facility during the subsequent four-year period, and a schedule for the conduct of approximately 25 percent of the performance tests per year for the subsequent four years.

(5) *Certification of simulation facilities.* Those facility licensees which propose, in accordance with paragraph (b)(1)(ii) of this section, to use a simulation facility consisting solely of a plant-referenced simulator as defined in § 55.4, shall—

(i) Submit a certification to the Commission that the simulation facility meets the Commission's regulations. The facility licensee shall provide this certification on Form NRC-474 in accordance with the schedule in paragraph (b)(2)(iii) or (b)(3)(iii) of this section, as applicable.

(ii) Submit, every four years on the anniversary of the certification, a report to the Commission which identifies any uncorrected performance test failures, and submit a schedule for correction of such performance test failures, if any.

(iii) Retain the results of the performance test conducted until four years after the submittal of certification under paragraph (b)(5)(i), each report pursuant to paragraph (b)(5)(ii), or recertification under paragraph (b)(5)(v) of this section, as applicable.

(iv) If the Commission determines, based upon the results of performance testing, that a certified simulation facility does not meet the requirements of this part, the simulation facility may not be used to conduct operating tests.

(v) If the Commission determines, pursuant to paragraph (b)(5)(iv) of this section, that a certified simulation facility does not meet the requirements of this part, the facility licensee may submit a recertification to the Commission on Form NRC-474. This recertification must include a description of corrective actions taken, including results of completed performance testing as required for recertification.

(vi) Any certification report, or recertification submitted pursuant to paragraph (b)(5)(i), (b)(5)(ii) or (b)(5)(v) of this section must include a description of performance testing completed for the simulation facility, and must include a description of the performance tests, if different, to be conducted on the simulation facility during the subsequent four-year period, and a schedule for the conduct of approximately 25 percent of the performance tests per year for the subsequent four years.

[52 FR 9460, Mar. 25, 1987, as amended at 53 FR 43421, Oct. 27, 1988]

§ 55.47 Waiver of examination and test requirements.

(a) On application, the Commission may waive any or all of the requirements for a written examination and operating test, if it finds that the applicant—

(1) Has had extensive actual operating experience at a comparable facility, as determined by the Commission, within two years before the date of application;

(2) Has discharged his or her responsibilities competently and safely and is capable of continuing to do so; and

(3) Has learned the operating procedures for and is qualified to operate competently and safely the facility designated in the application.

(b) The Commission may accept as proof of the applicant's past performance a certification of an authorized representative of the facility licensee or of a holder of an authorization by which the applicant was previously employed. The certification must contain a description of the applicant's operating experience, including an approximate number of hours the applicant operated the controls of the facility, the duties performed, and the extent of the applicant's responsibility.

(c) The Commission may accept as proof of the applicant's current qualifications a certification of an authorized representative of the facility licensee or of a holder of an authorization where the applicant's services will be utilized.

§ 55.49 Integrity of examinations and tests.

Applicants, licensees, and facility licensees shall not engage in any activity that compromises the integrity of any application, test, or examination required by this part.

Subpart F—Licenses

§ 55.51 Issuance of licenses.

Operator and senior operator licenses. If the Commission determines that an applicant for an operator license or a senior operator license meets the requirements of the Act and its regulations, it will issue a license in the form and containing any conditions and limitations it considers appropriate and necessary.

§ 55.53 Conditions of licenses.

Each license contains and is subject to the following conditions whether stated in the license or not:

(a) Neither the license nor any right under the license may be assigned or otherwise transferred.

(b) The license is limited to the facility for which it is issued.

(c) The license is limited to those controls of the facility specified in the license.

(d) The license is subject to, and the licensee shall observe, all applicable rules, regulations, and orders of the Commission.

(e) If a licensee has not been actively performing the functions of an operator or senior operator, the licensee may not resume activities authorized by a license issued under this part except as permitted by paragraph (f) of this section. To maintain active status, the licensee shall actively perform the functions of an operator or senior operator on a minimum of seven 8-hour or five 12-hour shifts per calendar quarter. For test and research reactors, the licensee shall actively perform the functions of an operator or senior operator for a minimum of four hours per calendar quarter.

(f) If paragraph (e) of this section is not met, before resumption of functions authorized by a license issued under this part, an authorized repreentative of the facility licensee shall ertify the following:

(1) That the qualifications and tatus of the licensee are current and alid; and

(2) That the licensee has completed minimum of 40 hours of shift funcions under the direction of an operaor or senior operator as appropriate nd in the position to which the indiidual will be assigned. The 40 hours nust have included a complete tour of he plant and all required shift turnover procedures. For senior operators imited to fuel handling under paraaph (c) of this section, one shift nust have been completed. For test nd research reactors, a minimum of ix hours must have been completed.

(g) The licensee shall notify the Commission within 30 days about a onviction for a felony.

(h) The licensee shall complete a reualification program as described by § 55.59.

(i) The licensee shall have a biennial medical examination.

(j) The licensee shall comply with any other conditions that the Commission may impose to protect health or to minimize danger to life or property.

§ 55.55 Expiration.

(a) Each operator license and senior operator license expires six years after the date of issuance, upon termination of employment with the facility licensee, or upon determination by the facility licensee that the licensed individual no longer needs to maintain a license.

(b) If a licensee files an application for renewal or an upgrade of an existing license on Form NRC-398 at least 30 days before the expiration of the existing license, it does not expire until disposition of the application for renewal or for an upgraded license has been finally determined by the Commission. Filing by mail or telegram will be deemed to be complete at the time the application is deposited in the mail or with a telegraph company.

§ 55.57 Renewal of licenses.

(a) The applicant for renewal of a license shall—

(1) Complete and sign Form NRC-398 and include the number of the license for which renewal is sought.

(2) File an original and two copies of Form NRC-398 with the appropriate Regional Administrator specified in § 55.5(b).

(3) Provide written evidence of the applicant's experience under the existing license and the approximate number of hours that the licensee has operated the facility.

(4) Provide a statement by an authorized representative of the facility licensee that during the effective term of the current license the applicant has satisfactorily completed the requalification program for the facility for which operator or senior operator license renewal is sought.

(5) Provide evidence that the applicant has discharged the license responsibilities competently and safely. The Commission may accept as evidence of the applicant's having met this requirement a certificate of an authorized representative of the facility licensee or holder of an authorization by which the licensee has been employed.

(6) Provide certification by the facility licensee of medical condition and general health on Form NRC-396, to comply with §§ 55.21, 55.23 and 55.27.

(b) The license will be renewed if the Commission finds that—

(1) The medical condition and the general health of the licensee continue to be such as not to cause operational errors that endanger public health and safety. The Commission will base this finding upon the certification by the facility licensee as described in § 55.23.

(2) The licensee—

(i) Is capable of continuing to competently and safely assume licensed duties;

(ii) Has successfully completed a requalification program that has been approved by the Commission as required by § 55.59; and

(iii) Has passed the requalification examinations and annual operating tests as required by § 55.59.

(iv) Has passed a comprehensive requalification written examination and operating test administered by the

Commission during the term of a six-year license.

(3) There is a continued need for a licensee to operate or for a senior operator to direct operators at the facility designated in the application.

(4) The past performance of the licensee has been satisfactory to the Commission. In making its finding, the Commission will include in its evaluation information such as notices of violations or letters of reprimand in the licensee's docket.

§ 55.59 Requalification.

(a) *Requalification requirements.* Each licensee shall—

(1) Successfully complete a requalification program developed by the facility licensee that has been approved by the Commission. This program shall be conducted for a continuous period not to exceed 24 months in duration.

(2) Pass a comprehensive requalification written examination and an annual operating test.

(i) the written examination will sample the items specified in §§ 55.41 and 55.43 of this part, to the extent applicable to the facility, the licensee, and any limitation of the license under § 55.53(c) of this part.

(ii) The operating test will require the operator or senior operator to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a comprehensive sample of items specified in § 55.45(a) (2) through (13) inclusive to the extent applicable to the facility.

(iii) In lieu of the Commission accepting a certification by the facility licensee that the licensee has passed written examinations and operating tests administered by the facility licensee within its Commission-approved program developed by using a systems approach to training under paragraph (c) of this section, the Commission may administer a comprehensive requalification written examination and an annual operating test.

(b) *Additional training.* If the requirements of paragraphs (a) (1) and (2) of this section are not met, the Commission may require the licensee to complete additional training and to submit evidence to the Commission of successful completion of this training before returning to licensed duties.

(c) *Requalification program requirements.* A facility licensee shall have a requalification program reviewed and approved by the Commission. The requalification program must meet the requirements of paragraphs (c) (1) through (7) of this section. In lieu of paragraphs (c) (2), (3), and (4) of this section, the Commission may approve a program developed by using a systems approach to training.

(1) *Schedule.* The requalification program must be conducted for a continuous period not to exceed two years, and upon conclusion must be promptly followed, pursuant to a continuous schedule, by successive requalification programs.

(2) *Lectures.* The requalification program must include preplanned lectures on a regular and continuing basis throughout the license period in those areas where operator and senior operator written examinations and facility operating experience indicate that emphasis in scope and depth of coverage is needed in the following subjects:

(i) Theory and principles of operation.

(ii) General and specific plant operating characteristics.

(iii) Plant instrumentation and control systems.

(iv) Plant protection systems.

(v) Engineered safety systems.

(vi) Normal, abnormal, and emergency operating procedures.

(vii) Radiation control and safety.

(viii) Technical specifications.

(ix) Applicable portions of title 10, chapter I, Code of Federal Regulations.

(3) *On-the-job training.* The requalification program must include on-the-job training so that—

(i) Each licensed operator of a utilization facility manipulates the plant controls and each licensed senior operator either manipulates the controls or directs the activities of individuals during plant control manipulations during the term of the licensed operator's or senior operator's license. For reactor operators and senior operators, these manipulations must consist of the following control manipulations and plant evolutions if they are appli-

ile to the plant design. Items de-
ibed in paragraphs (c)(3)(i) (A)
rough (L) of this section must be
rformed annually; all other items
ist be performed on a two-year
cle. However, the requalification
ograms must contain a commitment
at each individual shall perform or
rticipate in a combination of reactiv-
control manipulations based on the
ailability of plant equipment and
stems. Those control manipulations
hich are not performed at the plant
ay be performed on a simulator. The
e of the Technical Specifications
ould be maximized during the simu-
tor control manipulations. Senior op-
ator licensees are credited with
ese activities if they direct control
anipulations as they are performed.

A) Plant or reactor startups to in-
ude a range that reactivity feedback
om nuclear heat addition is noticea-
e and heatup rate is established.

(B) Plant shutdown.

(C) Manual control of steam genera-
rs or feedwater or both during start-
and shutdown.

(D) Boration or dilution during
ower operation.

(E) Significant (≥10 percent) power
hanges in manual rod control or re-
rculation flow.

(F) Reactor power change of 10 per-
nt or greater where load change is
erformed with load limit control or
here flux, temperature, or speed con-
ol is on manual (for HTGR).

(G) Loss of coolant, including—

(*1*) Significant PWR steam genera-
r leaks

(*2*) Inside and outside primary con-
inment

(*3*) Large and small, including lead-
ate determination

(*4*) Saturated reactor coolant re-
ponse (PWR).

(H) Loss of instrument air (if simu-
ated plant specific).

(I) Loss of electrical power (or de-
raded power sources).

(J) Loss of core coolant flow/natural
irculation.

(K) Loss of feedwater (normal and
mergency).

(L) Loss of service water, if required
or safety.

(M) Loss of shutdown cooling.

(N) Loss of component cooling system or cooling to an individual component.

(O) Loss of normal feedwater or normal feedwater system failure.

(P) Loss of condenser vacuum.

(Q) Loss of protective system channel.

(R) Mispositioned control rod or rods (or rod drops).

(S) Inability to drive control rods.

(T) Conditions requiring use of emergency boration or standby liquid control system.

(U) Fuel cladding failure or high activity in reactor coolant or offgas.

(V) Turbine or generator trip.

(W) Malfunction of an automatic control system that affects reactivity.

(X) Malfunction of reactor coolant pressure/volume control system.

(Y) Reactor trip.

(Z) Main steam line break (inside or outside containment).

(AA) A nuclear instrumentation failure.

(ii) Each licensed operator and senior operator has demonstrated satisfactory understanding of the operation of the apparatus and mechanisms associated with the control manipulations in paragraph (c)(3)(i) of this section, and knows the operating procedures in each area for which the operator or senior operator is licensed.

(iii) Each licensed operator and senior operator is cognizant of facility design changes, procedure changes, and facility license changes.

(iv) Each licensed operator and senior operator reviews the contents of all abnormal and emergency procedures on a regularly scheduled basis.

(v) A simulator may be used in meeting the requirements of paragraphs (c)(3)(i) and (3)(ii) of this section, if it reproduces the general operating characteristics of the facility involved and the arrangement of the instrumentation and controls of the simulator is similar to that of the facility involved. If the simulator or simulation device is used to administer operating tests for a facility, as provided in § 55.45 (b)(1), the device approved to meet the requirements of § 55.45(b)(1) must be used for credit to be given for meeting the requirements of paragraphs (c)(3)(i) (G through AA) of this section.

(4) *Evaluation.* The requalification program must include—

(i) Comprehensive requalification written examinations and annual operating tests which determine areas in which retraining is needed to upgrade licensed operator and senior operator knowledge.

(ii) Written examinations which determine licensed operators' and senior operators' knowledge of subjects covered in the requalification program and provide a basis for evaluating their knowledge of abnormal and emergency procedures.

(iii) Systematic observation and evaluation of the performance and competency of licensed operators and senior operators by supervisors and/or training staff members, including evaluation of actions taken or to be taken during actual or simulated abnormal and emergency procedures.

(iv) Simulation of emergency or abnormal conditions that may be accomplished by using the control panel of the facility involved or by using a simulator. Where the control panel of the facility is used for simulation, the actions taken or to be taken for the emergency or abnormal condition shall be discussed; actual manipulation of the plant controls is not required. If a simulator is used in meeting the requirements of paragraph (c)(4)(iii) of this section, it shall accurately reproduce the operating characteristics of the facility involved and the arrangement of the instrumentation and controls of the simulator shall closely parallel that of the facility involved. After the provisions of § 55.45(b) have been implemented at a facility, the certified or approved simulation facility must be used to comply with this paragraph.

(v) Provisions for each licensed operator and senior operator to participate in an accelerated requalification program where performance evaluations conducted pursuant to paragraphs (c)(4) (i) through (iv) of this section clearly indicated the need.

(5) *Records.* The requalification program documentation must include the following:

(i) The facility licensee shall maintain records documenting the participation of each licensed operator and senior operator in the requalification program. The records must contain copies of written examinations administered, the answers given by the licensee, and the results of evaluations and documentation of operating tests and of any additional training administered in areas in which an operator or senior operator has exhibited deficiencies. The facility licensee shall retain these records until the operator's or senior operator's license is renewed.

(ii) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period.

(iii) If there is a conflict between the Commission's regulations in this part and any license condition, or other written Commission approval or authorization pertaining to the retention period for the same type of record, the retention period specified for these records by the regulations in this part apply unless the Commission, pursuant to § 55.11, grants a specific exemption from this record retention requirement.

(6) *Alternative training programs.* The requirements of this section may be met by requalification programs conducted by persons other than the facility licensee if the requalification programs are similar to the programs described in paragraphs (c) (1) through (5) of this section and the alternative program has been approved by the Commission.

(7) *Applicability to research and test reactor facilities.* To accommodate specialized modes of operation and differences in control, equipment, and operator skills and knowledge, the requalification program for each licensed operator and senior operator of a research reactor or test reactor facility must conform generally but need not be identical to the requalification

program outlined in paragraphs (c) (1) through (6) of this section. Significant deviations from the requirements of paragraphs (c) (1) through (6) of this section will be permitted only if supported by written justification and approved by the Commission.

Subpart G—Modification and Revocation of Licenses

§ 55.61 Modification and revocation of licenses.

(a) The terms and conditions of all licenses are subject to amendment, revision, or modification by reason of rules, regulations, or orders issued in accordance with the Act or any amendments thereto.

(b) Any license may be revoked, suspended, or modified, in whole or in part:

(1) For any material false statement in the application or in any statement of fact required under section 182 of the Act,

(2) Because of conditions revealed by the application or statement of fact or any report, record, inspection or other means that would warrant the Commission to refuse to grant a license on an original application,

(3) For willful violation of, or failure to observe any of the terms and conditions of the Act, or the license, or of any rule, regulation, or order of the Commission, or

(4) For any conduct determined by the Commission to be a hazard to safe operation of the facility.

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(a) An injunction or other court order may be obtained prohibiting any violation of any provision of:

(1) The Atomic Energy Act of 1954, as amended;

(2) Title II of the Energy Reorganization Act of 1974, as amended; or

(3) Any regulation or order issued under these Acts.

(b) A court order may be obtained for the payment of a civil penalty imposed under section 234 of the Aomic Energy Act for violation of:

(1) Sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Atomic Energy Act;

(2) Section 206 of the Energy Reorganization Act of 1974;

(3) Any rule, regulation, or order issued under these Acts;

(4) Any term, condition, or limitation of any license issued under these Acts; or

(5) For any violation for which a license may be revoked under section 186 of the Atomic Energy Act.

(c) Any person who willfully violates any provision of the Atomic Energy Act or any regulation issued under the Act, including the regulations in this part, may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment, or both, as provided by law.

PART 60—DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN GEOLOGIC REPOSITORIES

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AUTHORITY: Secs. 51, 53, 62, 63, 65, 81, 161, 182, 183, 68 Stat. 929, 930, 932, 933, 935, 948, 953, 954, as amended (42 U.S.C. 2071, 2073, 2092, 2093, 2095, 2111, 2201, 2232, 2233); secs. 202, 206, 88 Stat. 1244, 1246 (42 U.S.C. 5842, 5846); secs. 10 and 14, Pub. L. 95-601, 92 Stat. 2951 (42 U.S.C. 2021a and 5851); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332); secs. 114, 121, Pub. L. 97-425, 96 Stat. 2213g, 2228, as amended (42 U.S.C. 10134, 10141).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 60.9(f), 60.10, 60.71 are issued under secs. 161i and 161o, 68 Stat. 949 and 950, as amended (42 U.S.C. 2201(i) and 2201(o)).

SOURCE: 46 FR 13980, Feb. 25, 1981, unless otherwise noted.

Subpart A—General Provisions

§ 60.1 Purpose and scope.

This part prescribes rules governing the licensing of the U.S. Department of Energy to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area sited, constructed, or operated in accordance with the Nuclear Waste Policy Act of 1982. This part does not apply to any activity licensed under another part of this chapter.

[51 FR 27162, July 30, 1986]

§ 60.2 Definitions.

As used in this part:

Accessible environment means: (1) The atmosphere, (2) the land surface, (3) surface water, (4) oceans, and (5) the portion of the lithosphere that is outside the controlled area.

Affected Indian Tribe means any Indian Tribe (1) within whose reservation boundaries a repository for high-level radioactive waste or spent fuel is proposed to be located; or (2) whose Federally defined possessory or usage rights to other lands outside of the reservation's boundaries arising out of Congressionally ratified treaties or other Federal law may be substantially and adversely affected by the locating of such a facility; *Provided*, That the Secretary of the Interior finds, upon the petition of the appropriate governmental officials of the Tribe, that such effects are both substantial and adverse to the Tribe.

Anticipated processes and events means those natural processes and events that are reasonably likely to occur during the period the intended performance objective must be achieved. To the extent reasonable in the light of the geologic record, it shall be assumed that those processes operating in the geologic setting during the Quaternary Period continue to operate but with the perturbations caused by the presence of emplaced radioactive waste superimposed thereon.

Barrier means any material or structure that prevents or substantially delays movement of water or radionuclides.

Candidate area means a geologic and hydrologic system within which a geologic repository may be located.

Commencement of construction means clearing of land, surface or subsurface excavation, or other substantial action that would adversely affect the environment of a site, but does not include changes desirable for the temporary use of the land for public recreational uses, site characterization activities, other preconstruction monitoring and investigation necessary to establish background information related to the suitability of a site or to the protection of environmental values, or procurement or manufacture of components of the geologic repository operations area.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Containment means the confinement of radioactive waste within a designated boundary.

Controlled area means a surface location, to be marked by suitable monuments, extending horizontally no more than 10 kilometers in any direction from the outer boundary of the underground facility, and the underlying subsurface, which area has been committed to use as a geologic repository and from which incompatible activities would be restricted following permanent closure.

Director means the Director of the Nuclear Regulatory Commission's Office of Nuclear Material Safety and Safeguards.

Disposal means the isolation of radioactive wastes from the accessible environment.

Disturbed zone means that portion of the controlled area the physical or chemical properties of which have changed as a result of underground facility construction or as a result of heat generated by the emplaced radioactive wastes such that the resultant change of properties may have a significant effect on the performance of the geologic repository.

DOE means the U.S. Department of Energy or its duly authorized representatives.

Engineered barrier system means the waste packages and the underground facility.

Geologic repository means a system which is intended to be used for, or may be used for, the disposal of radioactive wastes in excavated geologic media. A geologic repository includes: (1) The geologic repository operations area, and (2) the portion of the geologic setting that provides isolation of the radioactive waste.

Geologic repository operations area means a high-level radioactive waste facility that is part of a geologic repository, including both surface and subsurface areas, where waste handling activities are conducted.

Geologic setting means the geologic, hydrologic, and geochemical systems of the region in which a geologic repository operations area is or may be located.

Groundwater means all water which occurs below the land surface.

High-level radioactive waste or *HLW* means: (1) Irradiated reactor fuel, (2) liquid wastes resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated wastes from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuel, and (3) solids into which such liquid wastes have been converted.

HLW facility means a facility subject to the licensing and related regulatory authority of the Commission pursuant to Sections 202(3) and 202(4) of the Energy Reorganization Act of 1974 (88 Stat 1244).[1]

Host rock means the geologic medium in which the waste is emplaced.

Important to safety, with reference to structures, systems, and components means those engineered structures, systems, and components essential to the prevention or mitigation o an accident that could result in a rad ation dose to the whole body, or an organ, of 0.5 rem or greater at o beyond the nearest boundary of th unrestricted area at any time until th completion of permanent closure.

Isolation means inhibiting the transport of radioactive material so th amounts and concentrations of th material entering the accessible environment will be kept within prescribe limits.

Permanent closure means final backfilling of the underground facility an the sealing of shafts and boreholes.

Performance confirmation mean the program of tests, experiments, an analyses which is conducted to evaluate the accuracy and adequacy of th information used to determine wit reasonable assurance that the pe formance objectives for the perio after permanent closure will be met.

Public Document Room means th place at 2120 L Street NW., Washington, DC, at which records of the Commission will ordinarily be made avai able for public inspection and another place, the location of which ha been published in the FEDERAL REGI TER, at which public records of th Commission pertaining to a particula geologic repository are made availab for public inspection.

Radioactive waste or *waste* mean HLW and other radioactive materia other than HLW that are received fo emplacement in a geologic repository.

Restricted area means any are access to which is controlled by the licensee for purposes of protection o individuals from exposure to radiatio and radioactive materials. *Restricte area* shall not include any areas use as residential quarters, although a separate room or rooms in a residentia building may be set apart as a restric ed area.

Retrieval means the act of intentio ally removing radioactive waste fro the underground location at which th waste had been previously emplace for disposal.

Saturated zone means that part o the earth's crust beneath the regiona water table in which all voids, larg and small, are ideally filled with wate under pressure greater than atmospheric.

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[1] These are DOE "facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from activities licensed under such Act [the Atomic Energy Act]" and "Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive wastes generated by [DOE], which are not used for, or are part of, research and development activities."

Site means the location of the controlled area.

Site characterization means the program of exploration and research, both in the laboratory and in the field, undertaken to establish the geologic conditions and the ranges of those parameters of a particular site relevant to the procedures under this part. Site characterization includes borings, surface excavations, excavation of exploratory shafts, limited subsurface lateral excavations and borings, and in situ testing at depth needed to determine the suitability of the site for a geologic repository, but does not include preliminary borings and geophysical testing needed to decide whether site characterization should be undertaken.

Unanticipated processes and events means those processes and events affecting the geologic setting that are judged not to be reasonably likely to occur during the period the intended performance objective must be achieved, but which are nevertheless sufficiently credible to warrant consideration. Unanticipated processes and events may be either natural processes or events or processes and events initiated by human activities other than those activities licensed under this part. Processes and events initiated by human activities may only be found to be sufficiently credible to warrant consideration if it is assumed that: (1) The monuments provided for by this part are sufficiently permanent to serve their intended purpose; (2) the value to future generations of potential resources within the site can be assessed adequately under the applicable provisions of this part; (3) an understanding of the nature of radioactivity, and an appreciation of its hazards, have been retained in some functioning institutions; (4) institutions are able to assess risk and to take remedial action at a level of social organization and technological competence equivalent to, or superior to, that which was applied in initiating the processes or events concerned; and (5) relevant records are preserved, and remain accessible, for several hundred years after permanent closure.

Underground facility means the underground structure, including openings and backfill materials, but excluding shafts, boreholes, and their seals.

Unrestricted area means any area, access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials, and any area used for residential quarters.

Unsaturated zone means the zone between the land surface and the regional water table. Generally, fluid pressure in this zone is less than atmospheric pressure, and some of the voids may contain air or other gases at atmospheric pressure. Beneath flooded areas or in perched water bodies the fluid pressure locally may be greater than atmospheric.

*Waste form*means the radioactive waste materials and any encapsulating or stabilizing matrix.

Waste package means the waste form and any containers, shielding, packing and other absorbent materials immediately surrounding an individual waste container.

Water table means that surface in a groundwater body at which the water pressure is atmospheric.

[48 FR 28217, June 21, 1983, as amended at 50 FR 29647, July 22, 1985; 51 FR 27162, July 30, 1986; 53 FR 43421, Oct. 27, 1988]

§ 60.3 License required.

(a) DOE shall not receive or possess source, special nuclear, or byproduct material at a geologic repository operations area except as authorized by a license issued by the Commission pursuant to this part.

(b) DOE shall not commence construction of a geologic repository operations area unless it has filed an application with the Commission and has obtained construction authorization as provided in this part. Failure to comply with this requirement shall be grounds for denial of a license.

§ 60.4 Communications and records.

(a) Except where otherwise specified, all communications and reports concerning the regulations in this part and applications filed under them should be addressed to the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Communications reports, and applications may be delivered in person at the Commission's offices at 2120 L Street NW., Washington DC, or 11555 Rockville Pike, Rockville, MD.

(b) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

[53 FR 19251, May 27, 1988, as amended at 53 FR 43421, Oct. 27, 1988]

§ 60.5 Interpretations.

Except as specifically authorized by the Commission, in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be considered binding upon the Commission.

§ 60.6 Exemptions.

The Commission may, upon application by DOE, any interested person, or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law, will not endanger life or property or the common defense and security, and are otherwise in the public interest.

§ 60.7 License not required for certain preliminary activities.

The requirement for a license set forth in § 60.3(a) of this part is not applicable to the extent that DOE receives and possesses source, special nuclear, and byproduct material at a geologic repository:

(a) For purposes of site characterization; or

(b) For use, during site characterization or construction, as components of radiographic, radiation monitoring, or similar equipment or instrumentation.

§ 60.8 Reporting, recordkeeping, and application requirements: OMB approval not required.

The information collection requirements contained in this part affect fewer than ten persons. Therefore, under section 3506(c)(5) of the Paperwork Reduction Act of 1980 (Pub. L. 96-511), OMB clearance is not required for these information collection requirements.

[47 FR 13774, Apr. 1, 1982]

§ 60.9 Employee protection.

(a) Discrimination by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, and privileges of employment. The protected activities are established in section 210 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to:

(i) Providing the Commission information about possible violations of requirements imposed under either of the above statutes;

(ii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements; or

(iii) Testifying in any Commission proceeding.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no applicaton to any employee alleging discrimination

prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in the protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 30 days after an alleged violation occurs by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraph (a) or paragraph (f) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for—

(1) Denial, revocation, or suspension of the license.

(2) Imposition of a civil penalty on the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e) Each licensee and each applicant shall post Form NRC-3, "Notice to Employees," on its premises. Posting must be at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. Premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

(f) No agreement affecting the compensation, terms, conditions and privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 210 of the Energy Reorganization Act of 1974, may contain any provision which would prohibit, restrict, or otherwise discourage, an employee from participating in protected activity as defined in paragraph (a)(1) of this section, including, but not limited to, providing information to the NRC on potential violations or other matters within NRC's regulatory responsibilities.

NOTE: Copies of Form NRC-3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D, part 20 of this chapter.

[47 FR 30456, July 14, 1982, as amended at 52 FR 31612, Aug. 21, 1987; 55 FR 10405, Mar. 21, 1990]

§ 60.10 Completeness and accuracy of information.

(a) Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

(b) Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Commission of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification shall be provided to the Administrator of the appropriate Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the Commission by other reporting or updating requirements.

[52 FR 49372, Dec. 31, 1987]

Subpart B—Licenses

PREAPPLICATION REVIEW

§ 60.15 Site characterization.

(a) Prior to submittal of an application for a license to be issued under this part DOE shall conduct a program of site characterization with respect to the site to be described in such application.

(b) Unless the Commission determines with respect to the site described in the application that it is not necessary, site characterization shall include a program of in situ exploration and testing at the depths that wastes would be emplaced.

(c) The program of site characterization shall be conducted in accordance with the following:

(1) Investigations to obtain the required information shall be conducted in such a manner as to limit adverse effects on the long-term performance of the geologic repository to the extent practical.

(2) The number of exploratory boreholes and shafts shall be limited to the extent practical consistent with obtaining the information needed for site characterization.

(3) To the extent practical, exploratory boreholes and shafts in the geologic repository operations area shall be located where shafts are planned for underground facility construction and operation or where large unexcavated pillars are planned.

(4) Subsurface exploratory drilling, excavation, and in situ testing before and during construction shall be planned and coordinated with geologic repository operations area design and construction.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28219, June 21, 1983. Redesignated and amended at 51 FR 27162, July 30, 1986; 54 FR 27871, July 3, 1989]

§ 60.16 Site characterization plan required.

Before proceeding to sink shafts at any area which has been approved by the President for site characterization, DOE shall submit to the Director, for review and comment, a site characterization plan for such area. DOE shall defer the sinking of such shafts until such time as there has been an opportunity for Commission comments thereon to have been solicited and considered by DOE.

[51 FR 27162, July 30, 1986]

§ 60.17 Contents of site characterization plan.

The site characterization plan shall contain—

(a) A general plan for site characterization activities to be conducted at the area to be characterized, which general plan shall include:

(1) A description of such area, including information on quality assurance programs that have been applied to the collection, recording, and retention of information used in preparing such description.

(2) A description of such site characterization activities, including the following—

(i) The extent of planned excavations;

(ii) Plans for any onsite testing with radioactive material, including radioactive tracers, or nonradioactive material;

(iii) Plans for any investigation activities that may affect the capability of such area to isolate high-level radioactive waste;

(iv) Plans to control any adverse impacts from such site characterization activities that are important to safety or that are important to waste isolation; and

(v) Plans to apply quality assurance to data collection, recording, and retention.

(3) Plans for the decontamination and decommissioning of such area, and for the mitigation of any significant adverse environmental impacts caused by site characterization activities, if such area is determined unsuitable for application for a construction

authorization for a geologic repository operations area;

(4) Criteria, developed pursuant to section 112(a) of the Nuclear Waste Policy Act of 1982, to be used to determine the suitability of such area for the location of a geologic repository; and

(5) Any other information which the Commission, by rule or order, requires.

(b) A description of the possible waste form or waste package for the high-level radioactive waste to be emplaced in such geologic repository, a description (to the extent practicable) of the relationship between such waste form or waste package and the host rock at such area, and a description of the activities being conducted by DOE with respect to such possible waste form or waste package or their relationship; and

(c) A conceptual design for the geologic repository operations area that takes into account likely site-specific requirements.

[51 FR 27163, July 30, 1986]

§ 60.18 Review of site characterization activities.[3]

(a) The Director shall cause to be published in the FEDERAL REGISTER a notice that a site characterization plan has been received from DOE and that a staff review of such plan has begun. The notice shall identify the area to be characterized and the NRC staff members to be consulted for further information.

(b) The Director shall make a copy of the site characterization plan available at the Public Document Room. The Director shall also transmit copies of the published notice of receipt to the Governor and legislature of the State in which the area to be characterized is located and to the governing body of any affected Indian Tribe. The Director shall provide an opportunity, with respect to any area to be characterized, for the State in which such area is located and for affected Indian Tribes to present their views on the site characterization plan and their suggestions with respect to comments thereon which may be made by NRC. In addition, the Director shall make NRC staff available to consult with States and affected Indian Tribes as provided in Subpart C of this part.

(c) The Director shall review the site characterization plan and prepare a site characterization analysis with respect to such plan. In the preparation of such site characterization analysis, the Director may invite and consider the views of interested persons on DOE's site characterization plan and may review and consider comments made in connection with public hearings held by DOE.

(d) The Director shall provide to DOE the site characterization analysis together with such additional comments as may be warranted. These comments shall include either a statement that the Director has no objection to the DOE's site characterization program, if such a statement is appropriate, or specific objections with respect to DOE's program for characterization of the area concerned. In addition, the Director may make specific recommendations pertinent to DOE's site characterization program.

(e) If DOE's planned site characterization activities include onsite testing with radioactive material, including radioactive tracers, the Director's comments shall include a determination regarding whether or not the Commission concurs that the proposed use of such radioactive material is necessary to provide data for the preparation of the environmental reports required by law and for an application to be submitted under § 60.22 of this part.

(f) The Director shall publish in the FEDERAL REGISTER a notice of availability of the site characterization anaylsis and a request for public comment. A reasonable period, not less than 90 days, shall be allowed for comment. Copies of the site characterization analysis and of the comments received shall be made available at the Public Document Room.

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[3] In addition to the review of site characterization activities specified in this section, the Commission contemplates an ongoing review of other information on site investigation and site characterization, in order to allow early identification of potential licensing issues for timely resolution. This activity will include, for example, a review of the environmental assessments prepared by DOE at the time of site nomination, and review of issues related to long lead time exploratory shaft planning and procurement actions by DOE prior to issuance of site characterization plans.

(g) During the conduct of site characterization activities, DOE shall report not less than once every six months to the Commission on the nature and extent of such activities and the information that has been developed, and on the progress of waste form and waste package research and development. The semiannual reports shall include the results of site characterization studies, the identification of new issues, plans for additional studies to resolve new issues, elimination of planned studies no longer necessary, identification of decision points reached and modifications to schedules where appropriate. DOE shall also report its progress in developing the design of a geologic repository operations area appropriate for the area being characterized, noting when key design parameters or features which depend upon the results of site characterization will be established. Other topics related to site characterization shall also be covered if requested by the Director.

(h) During the conduct of site characterization activities, NRC staff shall be permitted to visit and inspect the locations at which such activities are carried out and to observe excavations, borings, and in situ tests as they are done.

(i) The Director may comment at any time in writing to DOE, *expressing* current views on any aspect of site characterization. In particular, such comments shall be made whenever the Director, upon review of comments invited on the site characterization analysis or upon review of DOE's semiannual reports, determines that there are substantial new grounds for making recommendations or stating objections to DOE's site characterization program. The Director shall invite public comment on any comments which the Director makes to DOE upon review of the DOE semiannual reports or on any other comments which the Director makes to DOE on site characterization.

(j) The Director shall transmit copies of the site characterization analysis and all comments to DOE made by the Director under this section to the Governor and legislature of the State in which the area to be characterized is located and to the governing body of any affected Indian Tribe. When transmitting the site characterization analysis under this paragraph, the Director shall invite the addressees to review and comment thereon.

(k) All correspondence between DOE and the NRC under this section, including the reports described in paragraph (g), shall be placed in the Public Document Room.

(l) The activities described in paragraphs (a) through (k) of this section constitute informal conference between a prospective applicant and the staff, as described in § 2.101(a)(1) of this chapter, and are not part of a proceeding under the Atomic Energy Act of 1954, as amended. Accordingly, neither the issuance of a site characterization analysis nor any other comments of the Director made under this section constitutes a commitment to issue any authorization or license or in any way affect the authority of the Commission, the Atomic Safety and Licensing Appeal Board, Atomic Safety and Licensing Boards, other presiding officers, or the Director, in any such proceeding.

[51 FR 27162, July 30, 1986]

LICENSE APPLICATIONS

§ 60.21 Content of application.

(a) An application shall consist of general information and a Safety Analysis Report. An environmental impact statement shall be prepared in accordance with the Nuclear Waste Policy Act of 1982, as amended, and shall accompany the application. Any Restricted Data or National Security Information shall be separated from unclassified information.

(b) The general information shall include:

(1) A general description of the proposed geologic repository identifying the location of the geologic repository operations area, the general character of the proposed activities, and the basis for the exercise of licensing authority by the Commission.

(2) Proposed schedules for construction, receipt of waste, and emplacement of wastes at the proposed geologic repository operations area.

(3) A certification that DOE will provide at the geologic repository operations area such safeguards as it requires at comparable surface facilities (of DOE) to promote the common defense and security.

(4) A description of the physical security plan for protection against radiological sabotage. Since the radiation hazards associated with high-level wastes make them inherently unattractive as a target for theft or diversion, no detailed information need be submitted on protection against theft or diversion.

(5) A description of site characterization work actually conducted by DOE at all sites considered in the application and, as appropriate, explanations of why such work differed from the description of the site characterization program described in the Site Characterization Report for each site.

(c) The Safety Analysis Report shall include:

(1) A description and assessment of the site at which the proposed geologic repository operations area is to be located with appropriate attention to those features of the site that might affect geologic repository operations area design and performance. The description of the site shall identify the location of the geologic repository operations area with respect to the boundary of the accessible environment.

(i) The description of the site shall also include the following information regarding subsurface conditions. This description shall, in all cases, include such information with respect to the controlled area. In addition, where subsurface conditions outside the controlled area may affect isolation within the controlled area, the description shall include such information with respect to subsurface conditions outside the controlled area to the extent such information is relevant and material. The detailed information referred to in this paragraph shall include:

(A) The orientation, distribution, aperture in-filling and origin of fractures, discontinuities, and heterogeneities;

(B) The presence and characteristics of other potential pathways such as solution features, breccia pipes, or other potentially permeable features;

(C) The geomechanical properties and conditions, including pore pressure and ambient stress conditions;

(D) The hydrogeologic properties and conditions;

(E) The geochemical properties; and

(F) The anticipated response of the geomechanical, hydrogeologic, and geochemical systems to the maximum design thermal loading, given the pattern of fractures and other discontinuities and the heat transfer properties of the rock mass and groundwater.

(ii) The assessment shall contain:

(A) An analysis of the geology, geophysics, hydrogeology, geochemistry, climatology, and meteorology of the site,

(B) Analyses to determine the degree to which each of the favorable and potentially adverse conditions, if present, has been characterized, and the extent to which it contributes to or detracts from isolation. For the purpose of determining the presence of the potentially adverse conditions, investigations shall extend from the surface to a depth sufficient to determine critical pathways for radionuclide migration from the underground facility to the accessible environment. Potentially adverse conditions shall be investigated outside of the controlled area if they affect isolation within the controlled area.

(C) An evaluation of the performance of the proposed geologic repository for the period after permanent closure, assuming anticipated processes and events, giving the rates and quantities of releases of radionuclides to the accessible environment as a function of time; and a similar evaluation which assumes the occurrence of unanticipated processes and events.

(D) The effectiveness of engineered and natural barriers, including barriers that may not be themselves a part of the geologic repository operations area, against the release of radioactive material to the environment. The analysis shall also include a comparative evaluation of alternatives to the major design features that are important to waste isolation, with particular attention to the alternatives that would provide longer radionuclide containment and isolation.

(E) An analysis of the performance of the major design structures, systems, and components, both surface and subsurface, to identify those that are important to safety. For the purposes of this analysis, it shall be assumed that operations at the geologic repository operations area will be carried out at the maximum capacity and rate of receipt of radioactive waste stated in the application.

(F) An explanation of measures used to support the models used to perform the assessments required in paragraphs (A) through (D). Analyses and models that will be used to predict future conditions and changes in the geologic setting shall be supported by using an appropriate combination of such methods as field tests, in situ tests, laboratory tests which are representative of field conditions, monitoring data, and natural analog studies.

(2) A description and discussion of the design, both surface and subsurface, of the geologic repository operations area including: (i) the principal design criteria and their relationship to any general performance objectives promulgated by the Commission, (ii) the design bases and the relation of the design bases to the principal design criteria, (iii) information relative to materials of construction (including geologic media, general arrangement, and approximate dimensions), and (iv) codes and standards that DOE proposes to apply to the design and construction of the geologic repository operations area.

(3) A description and analysis of the design and performance requirements for structures, systems, and components of the geologic repository which are important to safety. This analysis shall consider—(i) The margins of safety under normal conditions and under conditions that may result from anticipated operational occurrences, including those of natural origin; and (ii) the adequacy of structures, systems, and components provided for the prevention of accidents and mitigation of the consequences of acci-
dents, including those caused by na
ral phenomena.

(4) A description of the quality a
surance program to be applied to th
structures, systems, and compone
important to safety and to the en
neered and natural barriers importa
to waste isolation.

(5) A description of the kin
amount, and specifications of the r
dioactive material proposed to be r
ceived and possessed at the geolog
repository operations area.

(6) An identification and justific
tion for the selection of those vari
bles, conditions, or other items whic
are determined to be probable subjec
of license specifications. Special atte
tion shall be given to those items th
may significantly influence the fin
design.

(7) A description of the program fo
control and monitoring of radioacti
effluents and occupational radiatio
exposures to maintain such effluen
and exposures in accordance with th
requirements of part 20 of this cha
ter.

(8) A description of the controls th
the applicant will apply to restri
access and to regulate land use at th
site and adjacent areas, including
conceptual design of monumen
which would be used to identify th
controlled area after permanent c
sure.

(9) Plans for coping with radiologic
emergencies at any time prior to pe
manent closure and decontaminat
or dismantlement of surface faciliti

(10) A description of the nuclear m
terial control and accounting progra

(11) A description of design conside
ations that are intended to facilita
permanent closure and decontamin
tion or dismantlement of surface f
cilities.

(12) A description of plans for r
trieval and alternate storage of the r
dioactive wastes should the geolog
repository prove to be unsuitable f
disposal of radioactive wastes.

(13) An identification and evaluatio
of the natural resources of the geolo
ic setting, including estimates as to u
discovered deposits, the exploitatio
of which could affect the ability of th
geologic repository to isolate radioa
tive wastes. Undiscovered deposits

resources characteristic of the area shall be estimated by reasonable inference based on geological and geophysical evidence. This evaluation of resources, including undiscoverd deposits, shall be conducted for the site and for areas of similar size that are representative of and are within the geologic setting. For natural resources with current markets the resources shall be assessed, with estimates provided of both gross and net value. The estimate of net value shall take into account current development, extraction and marketing costs. For natural resources without current markets, but which would be marketable given credible projected changes in economic or technological factors, the resources shall be described by physical factors such as tonnage or other amount, grade, and quality.

(14) An identification of those structures, systems, and components of the geologic repository, both surface and subsurface, which require research and development to confirm the adequacy of design. For structures, systems, and components important to safety and for the engineered and natural barriers important to waste isolation, DOE shall provide a detailed description of the programs designed to resolve safety questions, including a schedule indicating when these questions would be resolved.

(15) The following information concerning activities at the geologic repository operations area:

(i) The organizational structure of DOE as it pertains to construction and operation of the geologic repository operations area including a description of any delegations of authority and assignments of responsibilities, whether in the form of regulations, administrative directives, contract provisions, or otherwise.

(ii) Identification of key positions which are assigned responsibility for safety at and operation of the geologic repository operations area.

(iii) Personnel qualifications and training requirements.

(iv) Plans for startup activities and startup testing.

(v) Plans for conduct of normal activities, including maintenance, surveillance, and periodic testing of structures, systems, and components of the geologic repository operation area.

(vi) Plans for permanent closure and plans for the decontamination or dismantlement of surface facilities.

(vii) Plans for any uses of the geologic repository operations area for purposes other than disposal of radioactive wastes, with an analysis of the effects, if any, that such uses may have upon the operation of the structures, systems, and components important to safety and the engineered and natural barriers important to waste isolation.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28219, June 21, 1983; 54 FR 27871, July 3, 1989]

§ 60.22 Filing and distribution of application.

(a) An application for a license to receive and possess source, special nuclear, or byproduct material at a geologic repository operations area at a site which has been characterized, and any amendments thereto, and an accompanying environmental impact statement and any supplements, shall be signed by the Secretary of Energy or the Secretary's authorized representative and shall be filed in triplicate with the Director.

(b) Each portion of such application and any amendments, and each environmental impact statement and any supplements, shall be accompanied by 30 additional copies. Another 120 copies shall be retained by DOE for distribution in accordance with written instructions from the Director or the Director's designee.

(c) DOE shall, upon notification of the appointment of an Atomic Safety and Licensing Board, update the application, eliminating all superseded information, and supplement the environmental impact statement if necessary, and serve the updated application and environmental impact statement (as it may have been supplemented) as directed by the Board. At that time DOE shall also serve one such copy of the application and environmental impact statement on the Atomic Safety and Licensing Appeal Panel. Any subsequent amendments to the application or supplements to the environmental impact statement shall be served in the same manner.

(d) At the time of filing of an application and any amendments thereto, one copy shall be made available in an appropriate location near the proposed geologic repository operations area (which shall be a public document room, if one has been established) for inspection by the public and updated as amendments to the application are made. The environmental impact statement and any supplements thereto shall be made available in the same manner. An updated copy of the application, and the environmental impact statement and supplements, shall be produced at any public hearing held by the Commission on the application, for use by any party to the proceeding.

(e) The DOE shall certify that the updated copies of the application, and the environmental impact statement as it may have been supplemented, as referred to in paragraphs (c) and (d) of this section, contain the current contents of such documents submitted in accordance with the requirements of this part.

[54 FR 27871, July 3, 1989]

§ 60.23 Elimination of repetition.

In its application, environmental report, or Site Characterization Report, the DOE may incorporate by reference information contained in previous applications, statements, or reports filed with the Commission: *Provided*, That such references are clear and specific and that copies of the information so incorporated are available in the public document room located near the site of the proposed geologic repository.

§ 60.24 Updating of application and environmental impact statement.

(a) The application shall be as complete as possible in the light of information that is reasonably available at the time of docketing.

(b) The DOE shall update its application in a timely manner so as to permit the Commission to review, prior to issuance of a license:

(1) Additional geologic, geophysical, geochemical, hydrologic, meteorologic and other data obtained during construction.

(2) Conformance of construction o structures, systems, and component with the design.

(3) Results of research programs carried out to confirm the adequacy o designs.

(4) Other information bearing o the Commission's issuance of a licens that was not available at the time construction authorization was issued

(c) The DOE shall supplement it environmental impact statement in timely manner so as to take into account the environmental impacts o any substantial changes in its proposed actions or any significant new circumstances or information relevan to environmental concerns and bearing on the proposed action or its impacts.

[46 FR 13980, Feb. 25, 1981, as amended a 54 FR 27872, July 3, 1989]

CONSTRUCTION AUTHORIZATION

§ 60.31 Construction authorization.

Upon review and consideration of a application and environmental impac statement submitted under this par the Commission may authorize construction if it determines:

(a) *Safety.* That there is reasonabl assurance that the types and amount of radioactive materials described i the application can be received, possessed, and disposed of in a geologi repository operations area of th design proposed without unreasonabl risk to the health and safety of th public. In arriving at this determination, the Commission shall conside whether:

(1) DOE has described the propose geologic repository including but no limited to: (i) The geologic, geophysical, geochemical and hydrologic characteristics of the site; (ii) the kind and quantities of radioactive waste t be received, possessed, stored, and disposed of in the geologic repository operations area; (iii) the principal architectural and engineering criteria fo the design of the geologic repositor operations area; (iv) construction procedures which may affect the capability of the geologic repository to serv

its intended function; and (v) features or components incorporated in the design for the protection of the health and safety of the public.

(2) The site and design comply with the performance objectives and criteria contained in Subpart E of this part.

(3) The DOE's quality assurance program complies with the requirements of Subpart G of this part.

(4) The DOE's personnel training program complies with the criteria contained in Subpart H of this part.

(5) The DOE's emergency plan complies with the criteria contained in Subpart I of this part.

(6) The DOE's proposed operating procedures to protect health and to minimize danger to life or property are adequate.

(b) *Common defense and security.* That there is reasonable assurance that the activities proposed in the application will not be inimical to the common defense and security. A DOE certification that it will provide at the geologic repository operations area such safeguards as it requires at comparable DOE surface facilities to promote the common defense and security will constitute a rebuttable presumption of noninimicality to the common defense and security.

(c) *Environmental.* That, after weighing the environmental, economic, technical and other benefits against environmental costs and considering available alternatives, the action called for is issuance of the construction authorization, with any appropriate conditions to protect environmental values.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28220, June 21, 1983; 54 FR 27872, July 3, 1989]

§ 60.32 Conditions of construction authorization.

(a) A construction authorization shall include such conditions as the Commission finds to be necessary to protect the health and safety of the public, the common defense and security, or environmental values.

(b) The Commission will incorporate in the construction authorization provisions requiring DOE to furnish periodic or special reports regarding: (1) Progress of construction, (2) any data about the site obtained during construction which are not within the predicted limits upon which the facility design was based, (3) any deficiencies in design and construction which, if uncorrected, could adversely affect safety at any future time, and (4) results of research and development programs being conducted to resolve safety questions.

(c) The construction authorization will include restrictions on subsequent changes to the features of the geologic repository and the procedures authorized. The restrictions that may be imposed under this paragraph can include measures to prevent adverse effects on the geologic setting as well as measures related to the design and construction of the geologic repository operations area. These restrictions will fall into three categories of descending importance to public health and safety as follows: (1) Those features and procedures which may not be changed without: (i) 60 days prior notice to the Commission (ii) 30 days notice of opportunity for a prior hearing, and (iii) prior Commission approval; (2) those features and procedures which may not be changed without (i) 60 days prior notice to the Commission, and (ii) prior Commission approval; and (3) those features and procedures which may not be changed without 60 days notice to the Commission. Features and procedures falling in paragraph (c)(3) of this section may not be changed without prior Commission approval if the Commission, after having received the required notice, so orders.

(d) A construction authorization shall be subject to the limitation that a license to receive and possess source, special nuclear, or byproduct material at the geologic repository operations area shall not be issued by the Commission until (1) the DOE has updated its application as specified in § 60.24, and (2) the Commission has made the findings stated in § 60.41.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28221, June 21, 1983]

§ 60.33 Amendment of construction authorization.

(a) An application for amendment of a construction authorization shall be filed with the Commission fully describing any changes desired and following as far as applicable the format prescribed in § 60.21.

(b) In determining whether an amendment of a construction authorization will be approved, the Commission will be guided by the considerations which govern the issuance of the initial construction authorization, to the extent applicable.

LICENSE ISSUANCE AND AMENDMENT

§ 60.41 Standards for issuance of a license.

A license to receive and possess source, special nuclear, or byproduct material at a geologic repository operations area may be issued by the Commission upon finding that:

(a) Construction of the geologic repository operations area has been substantially completed in conformity with the application as amended, the provisions of the Atomic Energy Act, and the rules and regulations of the Commission. Construction may be deemed to be substantially complete for the purposes of this paragraph if the construction of (1) surface and interconnecting structures, systems, and components, and (2) any underground storage space required for initial operation are substantially complete.

(b) The activities to be conducted at the geologic repository operations area will be in conformity with the application as amended, the provisions of the Atomic Energy Act and the Energy Reorganization Act, and the rules and regulations of the Commission.

(c) The issuance of the license will not be inimical to the common defense and security and will not constitute an unreasonable risk to the health and safety of the public. A DOE certification that it will provide at the geologic repository operations area such safeguards as it requires at comparable DOE facilities to promote the common defense and security, will constitute a rebuttable presumption of non-inimicality to the common defense and security.

(d) All applicable requirements of part 51 have been satisfied.

§ 60.42 Conditions of license.

(a) A license issued pursuant to this part shall include such conditions, including license specifications, as the Commission finds to be necessary to protect the health and safety of the public, the common defense and security, and environmental values.

(b) Whether stated therein or not, the following shall be deemed conditions in every license issued:

(1) The license shall be subject to revocation, suspension, modification, or amendment for cause as provided by the Atomic Energy Act and the Commission's regulations.

(2) The DOE shall at any time while the license is in effect, upon written request of the Commission, submit written statements to enable the Commission to determine whether or not the license should be modified, suspended or revoked.

(3) The license shall be subject to the provisions of the Atomic Energy Act now or hereafter in effect and to all rules, regulations, and orders of the Commission. The terms and conditions of the license shall be subject to amendment, revision, or modification, by reason of amendments to or by reason of rules, regulations, and orders issued in accordance with the terms of the Atomic Energy Act.

(c) Each license shall be deemed to contain the provisions set forth in Section 183 b-d, inclusive, of the Atomic Energy Act, whether or not these provisions are expressly set forth in the license.

§ 60.43 License specification.

(a) A license issued under this part shall include license conditions derived from the analyses and evaluations included in the application, including amendments made before a license is issued, together with such additional conditions as the Commission finds appropriate.

(b) License conditions shall include items in the following categories:

(1) Restrictions as to the physical and chemical form and radioisotopic content of radioactive waste.

(2) Restrictions as to size, shape, and materials and methods of construction of radioactive waste packaging.

(3) Restrictions as to the amount of waste permitted per unit volume of storage space considering the physical characteristics of both the waste and the host rock.

(4) Requirements relating to test, calibration, or inspection to assure that the foregoing restrictions are observed.

(5) Controls to be applied to restricted access and to avoid disturbance to the controlled area and to areas outside the controlled area where conditions may affect isolation within the controlled area.

(6) Administrative controls, which are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure that activities at the facility are conducted in a safe manner and in conformity with the other license specifications.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28221, June 21, 1983]

§ 60.44 Changes, tests, and experiments.

(a)(1) Following authorization to receive and possess source, special nuclear, or byproduct material at a geologic repository operations area, the DOE may (i) make changes in the geologic repository operations area as described in the application, (ii) make changes in the procedures as described in the application, and (iii) conduct tests or experiments not described in the application, without prior Commission approval, provided the change, test, or experiment involves neither a change in the license conditions incorporated in the license nor an unreviewed safety question.

(2) A proposed change, test, or experiment shall be deemed to involve an unreviewed safety question if (i) the likelihood of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the application is increased, (ii) the possibility of an accident or malfunction of a different type than any previously evaluated in the application is created, or (iii) the margin of safety as defined in the basis for any license condition is reduced.

(b) The DOE shall maintain records of changes in the geologic repository operations area and of changes in procedures made pursuant to this section, to the extent that such changes constitute changes in the geologic repository operations area or procedures as described in the application. Records of tests and experiments carried out pursuant to paragraph (a) of this section shall also be maintained. These records shall include a written safety evaluation which provides the basis for the determination that the change, test, or experiment does not involve an unreviewed safety question. The DOE shall prepare annually, or at such shorter intervals as may be specified in the license, a report containing a brief description of such changes, tests, and experiments, including a summary of the safety evaluation of each. The DOE shall furnish the report to the appropriate NRC Regional Office shown in Appendix D of part 20 of this chapter with a copy to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Any report submitted pursuant to this paragraph shall be made a part of the public record of the licensing proceedings.

[46 FR 13980, Feb. 25, 1981, as amended at 52 FR 31612, Aug. 21, 1987]

§ 60.45 Amendment of license.

(a) An application for amendment of a license may be filed with the Commission fully describing the changes desired and following as far as applicable the format prescribed for license applications.

(b) In determining whether an amendment of a license will be approved, the Commission will be guided by the considerations that govern the issuance of the initial license, to the extent applicable.

§ 60.46 Particular activities requiring license amendment.

(a) Unless expressly authorized in the license, an amendment of the license shall be required with respect to any of the following activities:

(1) Any action which would make emplaced high-level radioactive waste irretrievable or which would substantially increase the difficulty of retrieving such emplaced waste.

(2) Dismantling of structures.

(3) Removal or reduction of controls applied to restrict access to or avoid disturbance of the controlled area and to areas outside the controlled area where conditions may affect isolation within the controlled area.

(4) Destruction or disposal of records required to be maintained under the provisions of this part.

(5) Any substantial change to the design or operating procedures from that specified in the license.

(6) Permanent closure.

(7) Any other activity involving an unreviewed safety question.

(b) An application for such an amendment shall be filed, and shall be reviewed, in accordance with the provisions of § 60.45.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28221, June 21, 1983]

PERMANENT CLOSURE

§ 60.51 License amendment for permanent closure.

(a) DOE shall submit an application to amend the license prior to permanent closure. The submission shall consist of an update of the license application submitted under §§ 60.21 and 60.22, including:

(1) A description of the program for post-permanent closure monitoring of the geologic repository.

(2) A detailed description of the measures to be employed—such as land use controls, construction of monuments, and preservation of records—to regulate or prevent activities that could impair the long-term isolation of emplaced waste within the geologic repository and to assure that relevant information will be preserved for the use of future generations. As a minimum, such measures shall include:

(i) Identification of the controlled area and geologic repository operations area by monuments that have been designed, fabricated, and emplaced to be as permanent as is practicable; and

(ii) Placement of records in the archives and land record systems of local, State, and Federal government agencies, and archives elsewhere in the world, that would be likely to be consulted by potential human intruders—such records to identify the location of the geologic repository operations area, including the underground facility, boreholes and shafts, and the boundaries of the controlled area, and the nature and hazard of the waste.

(3) Geologic, geophysical, geochemical, hydrologic, and other site data that are obtained during the operational period pertinent to the long-term isolation of emplaced radioactive wastes.

(4) The results of tests, experiments, and any other analyses relating to backfill of excavated areas, shaft sealing, waste interaction with the host rock, and any other tests, experiments, or analyses pertinent to the long-term isolation of emplaced wastes within the geologic repository.

(5) Any substantial revision of plans for permanent closure.

(6) Other information bearing upon permanent closure that was not available at the time a license was issued.

(b) If necessary, so as to take into account the environmental impact of any substantial changes in the permanent closure activities proposed to be carried out or any significant new information regarding the environmental impacts of such closure, DOE shall also supplement its environmental impact statement and submit such statement, as supplemented, with the application for license amendment.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28221, June 21, 1983; 54 FR 27872, July 3, 1989]

§ 60.52 Termination of license.

(a) Following permanent closure and the decontamination or dismantlement of surface facilities, DOE may apply for an amendment to terminate the license.

(b) Such application shall be filed, and will be reviewed, in accordance with the provisions of § 60.45 and this section.

(c) A license shall be terminated only when the Commission finds with respect to the geologic repository:

(1) That the final disposition of radioactive wastes has been made in conformance with the DOE's plan, as amended and approved as part of the license.

(2) That the final state of the geologic repository operations area conforms to DOE's plans for permanent closure and DOE's plans for the decontamination or dismantlement of surface facilities, as amended and approved as part of the license.

(3) That the termination of the license is authorized by law, including sections 57, 62, and 81 of the Atomic Energy Act, as amended.

[46 FR 13980, Feb. 25, 1981, as amended at 48 FR 28222, June 21, 1983]

Subpart C—Participation by State Governments and Affected Indian Tribes

Source: 51 FR 27164, July 30, 1986, unless otherwise noted.

§ 60.61 Provision of information.

(a) The Director shall provide to the Governor and legislature of any State in which a geologic repository operations area is or may be located, and to the governing body of any affected Indian Tribe, timely and complete information regarding determinations or plans made by the Commission with respect to the site characterization, siting, development, design, licensing, construction, operation, regulation, permanent closure, or decontamination and dismantlement of surface facilities, of such geologic repository operations area.

(b) For purposes of this section, a geologic repository operations area shall be considered to be one which "may be located" in a State if the location thereof in such State has been described in a site characterization plan submitted to the Commission under this part.

(c) Notwithstanding paragraph (a) of this section, the Director is not required to distribute any document to any entity if, with respect to such document, that entity or its counsel is included on a service list prepared pursuant to part 2 of this chapter.

(d) Copies of all communications by the Director under this section shall be placed in the Public Document Room, and copies thereof shall be furnished to DOE.

§ 60.62 Site review.

(a) Whenever an area has been approved by the President for site characterization, and upon request of a State or an affected Indian Tribe, the Director shall make NRC staff available to consult with representatives of such States and Tribes.

(b) Requests for consultation shall be made in writing to the Director.

(c) Consultation under this section may include:

(1) Keeping the parties informed of the Director's views on the progress of site characterization.

(2) Review of applicable NRC regulations, licensing procedures, schedules, and opportunities for State and Tribe participation in the Commission's regulatory activities.

(3) Cooperation in development of proposals for State and Tribe participation in license reviews.

§ 60.63 Participation in license reviews.

(a) State and local governments and affected Indian Tribes may participate in license reviews as provided in subpart G of part 2 of this chapter. A State in which a repository for high-level radioactive waste is proposed to be located and any affected Indian Tribe shall have an unquestionable legal right to participate as a party in such proceedings.

(b) In addition, whenever an area has been approved by the President for site characterization, a State or an affected Indian Tribe may submit to the Director a proposal to facilitate its participation in the review of a site characterization plan and/or license application. The proposal may be submitted at any time and shall contain a description and schedule of how the State or affected Indian Tribe wishes to participate in the review, or what services or activities the State or affected Indian Tribe wishes NRC to carry out, and how the services or activities proposed to be carried out by NRC would contribute to such participation. The proposal may include educational or information services (seminars, public meetings) or other actions on the part of NRC, such as establishing additional public document rooms or employment or exchange of State personnel under the Intergovernmental Personnel Act.

(c) The Director shall arrange for a meeting between the representatives of the State or affected Indian Tribe and the NRC staff to discuss any proposal submitted under paragraph (b) of this section, with a view to identifying any modifications that may contribute to the effective participation by such State or Tribe.

(d) Subject to the availability of funds, the Director shall approve all or any part of a proposal, as it may be modified through the meeting described above, if it is determined that:

(1) The proposed activities are suitable in light of the type and magnitude of impacts which the State or affected Indian Tribe may bear;

(2) The proposed activities:

(i) Will enhance communications between NRC and the State or affected Indian Tribe;

(ii) Will make a productive and timely contribution to the review; and

(iii) Are authorized by law.

(e) The Director will advise the State or affected Indian Tribe whether its proposal has been accepted or denied, and if all or any part of proposal is denied, the Director shall state the reason for the denial.

(f) Proposals submitted under this section, and responses thereto, shall be made available at the Public Document Room.

§ 60.64 Notice to States.

If the Governor and legislature of a State have jointly designated on their behalf a single person or entity to receive notice and information from the Commission under this part, the Commission will provide such notice and information to the jointly designated person or entity instead of the Governor and legislature separately.

§ 60.65 Representation.

Any person who acts under this subpart as a representative for a State (or for the Governor or legislature thereof) or for an affected Indian Tribe shall include in the request or other submission, or at the request of the Commission, a statement of the basis of his or her authority to act in such representative capacity.

Subpart D—Records, Reports, Tests, and Inspections

§ 60.71 Records and reports.

(a) DOE shall maintain such records and make such reports in connection with the licensed activity as may be required by the conditions of the license or by rules, regulations, and orders of the Commission as authorized by the Atomic Energy Act and the Energy Reorganization Act.

(b) Records of the receipt, handling, and disposition of radioactive waste at a geologic repository operations area shall contain sufficient information to provide a complete history of the movement of the waste from the shipper through all phases of storage and disposal. DOE shall retain these records in a manner that ensures their useability for future generations in accordance with § 60.51(a)(2).

[48 FR 28222, June 21, 1983, as amended at 53 FR 19251, May 27, 1988]

§ 60.72 Construction records.

(a) DOE shall maintain records of construction of the geologic repository operations area in a manner that ensures their useability for future generations in accordance with § 60.51(a)(2).

(b) The records required under paragraph (a) shall include at least the following:

(1) Surveys of the underground facility excavations, shafts, and boreholes referenced to readily identifiable surface features or monuments;

(2) A description of the materials encountered;

(3) Geologic maps and geologic cross sections;

(4) Locations and amount of seepage;

(5) Details of equipment, methods, progress, and sequence of work;

(6) Construction problems;

(7) Anomalous conditions encountered;

(8) Instrument locations, readings, and analysis;

(9) Location and description of structural support systems;

(10) Location and description of dewatering systems; and

(11) Details, methods of emplacement, and location of seals used.

[48 FR 28222, June 21, 1983, as amended at 53 FR 19251, May 27, 1988]

§ 60.73 Reports of deficiencies.

DOE shall promptly notify the Commission of each deficiency found in the characteristics of the site, and design and construction of the geologic repository operations area which, were it to remain uncorrected, could: (a) Be a substantial safety hazard, (b) represent a significant deviation from the design criteria and design bases stated in the application, or (c) represent a deviation from the conditions stated in the terms of a construction authorization or the license, including license specifications. The notification shall be in the form of a written report, copies of which shall be sent to the Director and to the appropriate Nuclear Regulatory Commission Regional Office listed in appendix D of part 20 of this chapter.

[48 FR 28222, June 21, 1983]

§ 60.74 Tests.

(a) DOE shall perform, or permit the Commission to perform, such tests as the Commission deems appropriate or necessary for the administration of the regulations in this part. These may include tests of:

(1) Radioactive waste,

(2) The geologic repository including its structures, systems, and components,

(3) Radiation detection and monitoring instruments, and

(4) Other equipment and devices used in connection with the receipt, handling, or storage of radioactive waste.

(b) The tests required under this section shall include a performance confirmation program carried out in accordance with subpart F of this part.

[48 FR 28222, June 21, 1983]

§ 60.75 Inspections.

(a) DOE shall allow the Commission to inspect the premises of the geologic repository operations area and adjacent areas to which DOE has rights of access.

(b) DOE shall make available to the Commission for inspection, upon reasonable notice, records kept by DOE pertaining to activities under this part.

(c)(1) DOE shall upon requests by the Director, Office of Nuclear Material Safety and Safeguards, provide rent-free office space for the exclusive use of the Commission inspection personnel. Heat, air-conditioning, light, electrical outlets and janitorial services shall be furnished by DOE. The office shall be convenient to and have full access to the facility and shall provide the inspector both visual and acoustic privacy.

(2) The space provided shall be adequate to accommodate a full-time inspector, a part-time secretary and transient NRC personnel and will be generally commensurate with other office facilities at the geologic repository operations area. A space of 250 square feet either within the geologic repository operations area's office complex or in an office trailer or other onsite space at the geologic repository operations area is suggested as a guide. For locations at which activities are carried out under licenses issued under other parts of this chapter, additional space may be requested to accomodate additional full-time inspectors. The Office space that is provided shall be subject to the approval of the Director, Office of Nuclear Material Safety and Safeguards. All furniture, supplies and communication equipment will be furnished by the Commission.

(3) DOE shall afford any NRC resident inspector assigned to that location, or other NRC inspectors identified by the Regional Administrator as likely to inspect the facility, immediate unfettered access, equivalent to access provided regular employees, following proper identification and compliance with applicable access control

measures for security, radiological protection and personal safety.

[48 FR 28222, June 21, 1983, as amended at 52 FR 31612, Aug. 21, 1987]

Subpart E—Technical Criteria

SOURCE: 48 FR 28222, June 21, 1983, unless otherwise noted.

§ 60.101 Purpose and nature of findings.

(a)(1) Subpart B of this part prescribes the standards for issuance of a license to receive and possess source, special nuclear, or byproduct material at a geologic repository operations area. In particular, § 60.41(c) requires a finding that the issuance of a license will not constitute an unreasonable risk to the health and safety of the public. The purpose of this subpart is to set out performance objectives and site and design criteria which, if satisfied, will support such a finding of no unreasonable risk.

(2) While these performance objectives and criteria are generally stated in unqualified terms, it is not expected that complete assurance that they will be met can be presented. A reasonable assurance, on the basis of the record before the Commission, that the objectives and criteria will be met is the general standard that is required. For § 60.112, and other portions of this subpart that impose objectives and criteria for repository performance over long times into the future, there will inevitably be greater uncertainties. Proof of the future performance of engineered barrier systems and the geologic setting over time periods of many hundreds or many thousands of years is not to be had in the ordinary sense of the word. For such long-term objectives and criteria, what is required is reasonable assurance, making allowance for the time period, hazards, and uncertainties involved, that the outcome will be in conformance with those objectives and criteria. Demonstration of compliance with such objectives and criteria will involve the use of data from accelerated tests and predictive models that are supported by such measures as field and laboratory tests, monitoring data and natural analog studies.

(b) Subpart B of this part also lists findings that must be made in support of an authorization to construct a geologic repository operations area. In particular, § 60.31(a) requires a finding that there is reasonable assurance that the types and amounts of radioactive materials described in the application can be received, possessed, and disposed of in a geologic repository operations area of the design proposed without unreasonable risk to the health and safety of the public. As stated in that paragraph, in arriving at this determination, the Commission will consider whether the site and design comply with the criteria contained in this subpart. Once again, while the criteria may be written in unqualified terms, the demonstration of compliance may take uncertainties and gaps in knowledge into account, provided that the Commission can make the specified finding of reasonable assurance as specified in paragraph (a) of this section.

§ 60.102 Concepts.

This section provides a functional overview of subpart E. In the event of any inconsistency with definitions found in § 60.2, those definitions shall prevail.

(a) *The HLW facility.* NRC exercises licensing and related regulatory authority over those facilities described in section 202 (3) and (4) of the Energy Reorganization Act of 1974. Any of these facilities is designated a *HLW facility.*

(b) *The geologic repository operations area.* (1) This part deals with the exercise of authority with respect to a particular class of HLW facility—namely a *geologic repository operations area.*

(2) *A geologic repository operations area* consists of those surface and subsurface areas that are part of a geologic repository where radioactive waste handling activities are conducted. The underground structure, including openings and backfill materials, but excluding shafts, boreholes, and their seals, is designated the *underground facility.*

(3) The exercise of Commission authority requires that the geologic re-

pository operations area be used for *storage* (which includes *disposal*) of *high-level radioactive wastes* (*HLW*).

(4) HLW includes irradiated reactor fuel as well as reprocessing wastes. However, if DOE proposes to use the geologic repository operations area for storage of *radioactive waste* other than HLW, the storage of this radioactive waste is subject to the requirements of this part.

(c) *Areas related to isolation.* Although the activities subject to regulation under this part are those to be carried out at the geologic repository operations area, the licensing process also considers characteristics of adjacent areas that are defined in other ways. There is to be an area surrounding the underground facility referred to above, which is designated the *controlled area,* within which DOE is to exercise specified controls to prevent adverse human actions following permanent closure. The location of the controlled area is the *site.* The *accessible environment* is the atmosphere, land surface, surface water, oceans, and the portion of the lithosphere that is outside the controlled area. There is an area, designated the *geologic setting,* which includes the geologic, hydrologic, and geochemical systems of the region in which a geologic repository operations area is or may be located. The geologic repository operations area plus the portion of the geologic setting that provides isolation of the radioactive waste make up the *geologic repository.*

(d) *Stages in the licensing process.* There are several stages in the licensing process. The *site characterization* stage, though begun before submission of a license application, may result in consequences requiring evaluation in the license review. The *construction stage* would follow, after issuance of a construction authorization. A *period of operations* follows the issuance of a license by the Commission. The period of operations includes the time during which *emplacement* of wastes occurs; any subsequent period before permanent closure during which the emplaced wastes are *retrievable;* and *permanent closure,* which includes sealing of shafts. Permanent closure represents the end of active human intervention with respect to the engineered barrier system.

(e) *Isolation of waste.* (1) During the first several hundred years following permanent closure of a geologic repository, when radiation and thermal levels are high and the uncertainties in assessing repository performance are large, special emphasis is placed upon the ability to contain the wastes by waste packages within an *engineered barrier system.* This is known as the *containment period.* The *engineered barrier system* includes the waste packages and the underground facility. A *waste package* is composed of the waste form and any containers, shielding, packing, and absorbent materials immediately surrounding an individual waste container. The *underground facility* means the underground structure, including openings and backfill materials, but excluding, shafts, boreholes, and their seals.

(2) Following the containment period special emphasis is placed upon the ability to achieve isolation of the wastes by virtue of the characteristics of the geologic repository. The engineered barrier system works to control the release of radioactive material to the geologic setting and the geologic setting works to control the release of radioactive material to the accessible environment. *Isolation* means inhibiting the transport of radioactive material so that amounts and concentrations of the materials entering the accessible environment will be kept within prescribed limits.

PERFORMANCE OBJECTIVES

§ 60.111 Performance of the geologic repository operations area through permanent closure.

(a) *Protection against radiation exposures and releases of radioactive material.* The geologic repository operations area shall be designed so that until permanent closure has been completed, radiation exposures and radiation levels, and releases of radioactive materials to unrestricted areas, will at all times be maintained within the limits specified in part 20 of this chapter and such generally applicable environmental standards for radioactivity as may have been established by the Environmental Protection Agency.

(b) *Retrievability of waste.* (1) The geologic repository operations area shall be designed to preserve the option of waste retrieval throughout the period during which wastes are being emplaced and, thereafter, until the completion of a preformance confirmation program and Commission review of the information obtained from such a program. To satisfy this objective, the geologic repository operations area shall be designed so that any or all of the emplaced waste could be retrieved on a reasonable schedule starting at any time up to 50 years after waste emplacement operations are initiated, unless a different time period is approved or specified by the Commission. This different time period may be established on a case-by-case basis consistent with the emplacement schedule and the planned performance confirmation program.

(2) This requirement shall not preclude decisions by the Commission to allow backfilling part or all of, or permanent closure of, the geologic repository operations area prior to the end of the period of design for retrievability.

(3) For purposes of this paragraph, a reasonable schedule for retrieval is one that would permit retrieval in about the same time as that devoted to construction of the geologic repository operations area and the emplacement of wastes.

§ 60.112 Overall system performance objective for the geologic repository after permanent closure.

The geologic setting shall be selected and the engineered barrier system and the shafts, boreholes and their seals shall be designed to assure that releases of radioactive materials to the accessible environment following permanent closure conform to such generally applicable environmental standards for radioactivity as may have been established by the Environmental Protection Agency with respect to both anticipated processes and events and unanticipated processes and events.

§ 60.113 Performance of particular barriers after permanent closure.

(a) *General provisions*—(1) *Engineered barrier system.* (i) The engineered barrier system shall be designed so that assuming anticipated processes and events: (A) Containment of HLW will be substantially complete during the period when radiation and thermal conditions in the engineered barrier system are dominated by fission product decay; and (B) any release of radionuclides from the engineered barrier system shall be a gradual process which results in small fractional releases to the geologic setting over long times. For disposal in the saturated zone, both the partial and complete filling with groundwater of available void spaces in the underground facility shall be appropriately considered and analysed among the anticipated processes and events in designing the engineered barrier system.

(ii) In satisfying the preceding requirement, the engineered barrier system shall be designed, assuming anticipated processes and events, so that:

(A) Containment of HLW within the waste packages will be substantially complete for a period to be determined by the Commission taking into account the factors specified in § 60.113(b) provided, that such period shall be not less than 300 years nor more than 1,000 years after permanent closure of the geologic repository; and

(B) The release rate of any radionuclide from the engineered barrier system following the containment period shall not exceed one part in 100,000 per year of the inventory of that radionuclide calculated to be present at 1,000 years following permanent closure, or such other fraction of the inventory as may be approved or specified by the Commission; provided, that this requirement does not apply to any radionuclide which is released at a rate less than 0.1% of the calculated total release rate limit. The calculated total release rate limit shall be taken to be one part in 100,000 per year of the inventory of radioactive waste, originally emplaced in the underground facility, that remains after 1,000 years of radioactive decay.

(2) *Geologic setting.* The geologic repository shall be located so that pre-waste-emplacement groundwater travel time along the fastest path of likely radionuclide travel from the disturbed zone to the accessible environment shall be at least 1,000 years or such other travel time as may be approved or specified by the Commission.

(b) On a case-by-case basis, the Commission may approve or specify some other radionuclide release rate, designed containment period or pre-waste-emplacement groundwater travel time, provided that the overall system performance objective, as it relates to anticipated processes and events, is satisfied. Among the factors that the Commission may take into account are:

(1) Any generally applicable environmental standard for radioactivity established by the Environmental Protection Agency;

(2) The age and nature of the waste, and the design of the underground facility, particularly as these factors bear upon the time during which the thermal pulse is dominated by the decay heat from the fission products;

(3) The geochemical characteristics of the host rock, surrounding strata and groundwater; and

(4) Particular sources of uncertainty in predicting the performance of the geologic repository.

(c) Additional requirements may be found to be necessary to satisfy the overall system performance objective as it relates to unanticipated processes and events.

LAND OWNERSHIP AND CONTROL

§ 60.121 Requirements for ownership and control of interests in land.

(a) *Ownership of land.* (1) Both the geologic repository operations area and the controlled area shall be located in and on lands that are either acquired lands under the jurisdiction and control of DOE, or lands permanently withdrawn and reserved for its use.

(2) These lands shall be held free and clear of all encumbrances, if significant, such as: (i) Rights arising under the general mining laws; (ii) easements for right-of-way; and (iii) all other rights arising under lease, rights of entry, deed, patent, mortgage, appropriation, prescription, or otherwise.

(b) *Additional controls.* Appropriate controls shall be established outside of the controlled area. DOE shall exercise any jurisdiction and control over surface and subsurface estates necessary to prevent adverse human actions that could significantly reduce the geologic repository's ability to achieve isolation. The rights of DOE may take the form of appropriate possessory interests, servitudes, or withdrawals from location or patent under the general mining laws.

(c) *Water rights.* (1) DOE shall also have obtained such water rights as may be needed to accomplish the purpose of the geologic repository operations area.

(2) Water rights are included in the additional controls to be established under paragraph (b) of this section.

SITING CRITERIA

§ 60.122 Siting criteria.

(a)(1) A geologic setting shall exhibit an appropriate combination of the conditions specified in paragraph (b) of this section so that, together with the engineered barriers system, the favorable conditions present are sufficient to provide reasonable assurance that the performance objectives relating to isolation of the waste will be met.

(2) If any of the potentially adverse conditions specified in paragraph (c) of this section is present, it may compromise the ability of the geologic repository to meet the performance objectives relating to isolation of the waste. In order to show that a potentially adverse condition does not so compromise the performance of the geologic repository the following must be demonstrated:

(i) The potentially adverse human activity or natural condition has been adequately investigated, including the extent to which the condition may be present and still be undetected taking into account the degree of resolution achieved by the investigations; and

(ii) The effect of the potentially adverse human activity or natural condition on the site has been adequately evaluated using analyses which are sensitive to the potentially adverse human activity or natural condition and assumptions which are not likely to underestimate its effect; and

(iii)(A) The potentially adverse human activity or natural condition is shown by analysis pursuant to paragraph (a)(2)(ii) of this section not to affect significantly the ability of the geologic repository to meet the performance objectives relating to isolation of the waste, or

(B) The effect of the potentially adverse human activity or natural condition is compensated by the presence of a combination of the favorable characteristics so that the performance objectives relating to isolation of the waste are met, or

(C) The potentially adverse human activity or natural condition can be remedied.

(b) *Favorable conditions.* (1) The nature and rates of tectonic, hydrogeologic, geochemical, and geomorphic processes (or any of such processes) operating within the geologic setting during the Quaternary Period, when projected, would not affect or would favorably affect the ability of the geologic repository to isolate the waste.

(2) For disposal in the saturated zone, hydrogeologic conditions that provide:

(i) A host rock with low horizontal and vertical permeability;

(ii) Downward or dominantly horizontal hydraulic gradient in the host rock and immediately surrounding hydrogeologic units; and

(iii) Low vertical permeability and low hydraulic gradient between the host rock and the surrounding hydrogeologic units.

(3) Geochemical conditions that:

(i) Promote precipitation or sorption of radionuclides;

(ii) Inhibit the formation of particulates, colloids, and inorganic and organic complexes that increase the mobility of radionuclides; or

(iii) Inhibit the transport of radionuclides by particulates, colloids, and complexes.

(4) Mineral assemblages that, when subjected to anticipated thermal loading, will remain unaltered or alter to mineral assemblages having equal or increased capacity to inhibit radionuclide migration.

(5) Conditions that permit the emplacement of waste at a minimum depth of 300 meters from the ground surface. (The ground surface shall be deemed to be the elevation of the lowest point on the surface above the disturbed zone.)

(6) A low population density within the geologic setting and a controlled area that is remote from population centers.

(7) Pre-waste-emplacement groundwater travel time along the fastest path of likely radionuclide travel from the disturbed zone to the accessible environment that substantially exceeds 1,000 years.

(8) For disposal in the unsaturated zone, hydrogeologic conditions that provide—

(i) Low moisture flux in the host rock and in the overlying and underlying hydrogeologic units;

(ii) A water table sufficiently below the underground facility such that fully saturated voids contiguous with the water table do not encounter the underground facility;

(iii) A laterally extensive low-permeability hydrogeologic unit above the host rock that would inhibit the downward movement of water or divert downward moving water to a location beyond the limits of the underground facility;

(iv) A host rock that provides for free drainage; or

(v) A climatic regime in which the average annual historic precipitation is a small percentage of the average annual potential evapotranspiration.

(c) *Potentially adverse conditions.* The following conditions are potentially adverse conditions if they are characteristic of the controlled area or may affect isolation within the controlled area.

(1) Potential for flooding of the underground facility, whether resulting from the occupancy and modification of floodplains or from the failure of existing or planned man-made surface water impoundments.

(2) Potential for foreseeable human activity to adversely affect the groundwater flow system, such as groundwater withdrawal, extensive irrigation, subsurface injection of fluids, underground pumped storage, military activity or construction of large scale surface water impoundments.

(3) Potential for natural phenomena such as landslides, subsidence, or volcanic activity of such a magnitude that large-scale surface water impoundments could be created that could change the regional groundwater flow system and thereby adversely affect the performance of the geologic repository.

(4) Structural deformation, such as uplift, subsidence, folding, or faulting that may adversely affect the regional groundwater flow system.

(5) Potential for changes in hydrologic conditions that would affect the migration of radionuclides to the accessible environment, such as changes in hydraulic gradient, average interstitial velocity, storage coefficient, hydraulic conductivity, natural recharge, potentiometric levels, and discharge points.

(6) Potential for changes in hydrologic conditions resulting from reasonably foreseeable climatic changes.

(7) Groundwater conditions in the host rock, including chemical composition, high ionic strength or ranges of Eh-pH, that could increase the solubility or chemical reactivity of the engineered barrier system.

(8) Geochemical processes that would reduce sorption of radionuclides, result in degradation of the rock strength, or adversely affect the performance of the engineered barrier system.

(9) Groundwater conditions in the host rock that are not reducing.

(10) Evidence of dissolutioning such as breccia pipes, dissolution cavities, or brine pockets.

(11) Structural deformation such as uplift, subsidence, folding, and faulting during the Quaternary Period.

(12) Earthquakes which have occurred historically that if they were to be repeated could affect the site significantly.

(13) Indications, based on correlations of earthquakes with tectonic processes and features, that either the frequency of occurrence or magnitude of earthquakes may increase.

(14) More frequent occurrence of earthquakes or earthquakes of higher magnitude than is typical of the area in which the geologic setting is located.

(15) Evidence of igneous activity since the start of the Quaternary Period.

(16) Evidence of extreme erosion during the Quaternary Period.

(17) The presence of naturally occurring materials, whether identified or undiscovered, within the site, in such form that:

(i) Economic extraction is currently feasible or potentially feasible during the foreseeable future; or

(ii) Such materials have greater gross value or net value than the average for other areas of similar size that are representative of and located within the geologic setting.

(18) Evidence of subsurface mining for resources within the site.

(19) Evidence of drilling for any purpose within the site.

(20) Rock or groundwater conditions that would require complex engineering measures in the design and construction of the underground facility or in the sealing of boreholes and shafts.

(21) Geomechanical properties that do not permit design of underground opening that will remain stable through permanent closure.

(22) Potential for the water table to rise sufficiently so as to cause saturation of an underground facility located in the unsaturated zone.

(23) Potential for existing or future perched water bodies that may saturate portions of the underground facility or provide a faster flow path from an underground facility located in the unsaturated zone to the accessible environment.

(24) Potential for the movement of radionuclides in a gaseous state through air-filled pore spaces of an unsaturated geologic medium to the accessible environment.

[48 FR 28222, June 21, 1983, as amended at 50 FR 29647, July 22, 1985]

DESIGN CRITERIA FOR THE GEOLOGIC REPOSITORY OPERATIONS AREA

§ 60.130 Scope of design criteria for the geologic repository operations area.

Sections 60.131 through 60.134 specify minimum criteria for the design of the geologic repository operations area. These design criteria are not intended to be exhaustive, however. Omissions in §§ 60.131 through 60.134 do not relieve DOE from any obligation to provide such safety features in a specific facility needed to achieve the performance objectives. All design bases must be consistent with the results of site characterization activities.

§ 60.131 General design criteria for the geologic repository operations area.

(a) *Radiological protection.* The geologic repository operations area shall be designed to maintain radiation doses, levels, and concentrations of radioactive material in air in restricted areas within the limits specified in part 20 of this chapter. Design shall include:

(1) Means to limit concentrations of radioactive material in air;

(2) Means to limit the time required to perform work in the vicinity of radioactive materials, including, as appropriate, designing equipment for ease of repair and replacement and providing adequate space for ease of operation;

(3) Suitable shielding;

(4) Means to monitor and control the dispersal of radioactive contamination;

(5) Means to control access to high radiation areas or airborne radioactivity areas; and

(6) A radiation alarm system to warn of significant increases in radiation levels, concentrations of radioactive material in air, and of increased radioactivity released in effluents. The alarm system shall be designed with provisions for calibration and for testing its operability.

(b) *Structures, systems, and components important to safety*—(1) *Protection against natural phenomena and environmental conditions.* The structures, systems, and components important to safety shall be designed so that natural phenomena and environmental conditions anticipated at the geologic repository operations area will not interfere with necessary safety functions.

(2) *Protection against dynamic effects of equipment failure and similar events.* The structures, systems, and components important to safety shall be designed to withstand dynamic effects such as missile impacts, that could result from equipment failure, and similar events and conditions that could lead to loss of their safety functions.

(3) *Protection against fires and explosions.* (i) The structures, systems, and components important to safety shall be designed to perform their safety fuctions during and after credible fires or explosions in the geologic repository operations area.

(ii) To the extent practicable, the geologic repository operations area shall be designed to incorporate the use of noncombustible and heat resistant materials.

(iii) The geologic repository operations area shall be designed to include explosion and fire detection alarm systems and appropriate suppression systems with sufficient capacity and capability to reduce the adverse effects of fires and explosions on structures, systems, and components important to safety.

(iv) The geologic repository operations area shall be designed to include means to protect systems, structures, and components important to safety against the adverse effects of either the operation or failure of the fire suppression systems.

(4) *Emergency capability.* (i) The structures, systems, and components important to safety shall be designed to maintain control of radioactive waste and radioactive effluents, and permit prompt termination of operations and evacuation of personnel during an emergency.

(ii) The geologic repository operations area shall be designed to include onsite facilities and services that ensure a safe and timely response to emergency conditions and that facilitate the use of available offsite services (such as fire, police, medical and ambulance service) that may aid in recovery from emergencies.

(5) *Utility services.* (i) Each utility service system that is important to safety shall be designed so that essential safety functions can be performed under both normal and accident conditions.

(ii) The utility services important to safety shall include redundant systems to the extent necessary to maintain, with adequate capacity, the ability to perform their safety functions.

(iii) Provisions shall be made so that, if there is a loss of the primary electric power source or circuit, reliable and timely emergency power can be provided to instruments, utility service systems, and operating systems, including alarm systems, important to safety.

(6) *Inspection, testing, and maintenance.* The structures, systems, and components important to safety shall be designed to permit periodic inspection, testing, and maintenance, as necessary, to ensure their continued functioning and readiness.

(7) *Criticality control.* All systems for processing, transporting, handling, storage, retrieval, emplacement, and isolation of radioactive waste shall be designed to ensure that a nuclear criticality accident is not possible unless at least two unlikely, independent, and concurrent or sequential changes have occurred in the conditions essential to nuclear criticality safety. Each system shall be designed for criticality safety under normal and accident conditions. The calculated effective multiplication factor (k_{eff}) must be sufficiently below unity to show at least a 5% margin, after allowance for the bias in the method of calculation and the uncertainty in the experiments used to validate the method of calculation.

(8) *Instrumentation and control systems.* The design shall include provisions for instrumentation and control systems to monitor and control the behavior of systems important to safety over anticipated ranges for normal operation and for accident conditions.

(9) *Compliance with mining regulations.* To the extent that DOE is not subject to the Federal Mine Safety and Health Act of 1977, as to the construction and operation of the geologic repository operations area, the design of the geologic repository operations area shall nevertheless include such provisions for worker protection as may be necessary to provide reasonable assurance that all structures, systems, and components important to safety can perform their intended functions. Any deviation from relevant design requirements in 30 CFR, chapter I, subchapters D, E, and N will give rise to a rebuttable presumption that this requirement has not been met.

(10) *Shaft conveyances used in radioactive waste handling.* (i) Hoists important to safety shall be designed to preclude cage free fall.

(ii) Hoists important to safety shall be designed with a reliable cage location system.

(iii) Loading and unloading systems for hoists important to safety shall be designed with a reliable system of interlocks that will fail safely upon malfunction.

(iv) Hoists important to safety shall be designed to include two independent indicators to indicate when waste packages are in place and ready for transfer.

§ 60.132 Additional design criteria for surface facilities in the geologic repository operations area.

(a) *Facilities for receipt and retrieval of waste.* Surface facilities in the geologic repository operations area shall be designed to allow safe handling and storage of wastes at the geologic repository operations area, whether these wastes are on the surface before emplacement or as a result of retrieval from the underground facility.

(b) *Surface facility ventilation.* Surface facility ventilation systems supporting waste transfer, inspection, decontamination, processing, or packaging shall be designed to provide protection against radiation exposures and offsite releases as provided in § 60.111(a).

(c) *Radiation control and monitoring*—(1) *Effluent control.* The surface facilities shall be designed to control the release of radioactive materials in effluents during normal operations so as to meet the performance objectives of § 60.111(a).

(2) *Effluent monitoring.* The effluent monitoring systems shall be designed to measure the amount and concentration of radionuclides in any effluent with sufficient precision to determine whether releases conform to the design requirement for effluent control. The monitoring systems shall be designed to include alarms that can be periodically tested.

(d) *Waste treatment.* Radioactive waste treatment facilities shall be designed to process any radioactive wastes generated at the geologic repository operations area into a form suitable to permit safe disposal at the geologic repository operations area or to permit safe transportation and conversion to a form suitable for disposal at an alternative site in accordance with any regulations that are applicable.

(e) *Consideration of decommissioning.* The surface facility shall be designed to facilitate decontamination or dismantlement to the same extent as would be required, under other parts of this chapter, with respect to equivalent activities licensed thereunder.

§ 60.133 Additional design criteria for the underground facility.

(a) *General criteria for the underground facility.* (1) The orientation, geometry, layout, and depth of the underground facility, and the design of any engineered barriers that are part of the underground facility shall contribute to the containment and isolation of radionuclides.

(2) The underground facility shall be designed so that the effects of credible disruptive events during the period of operations, such as flooding, fires and explosions, will not spread through the facility.

(b) *Flexibility of design.* The underground facility shall be designed with sufficient flexibility to allow adjustments where necessary to accommodate specific site conditions identified through in situ monitoring, testing, or excavation.

(c) *Retrieval of waste.* The underground facility shall be designed to permit retrieval of waste in accordance with the performance objectives of § 60.111.

(d) *Control of water and gas.* The design of the underground facility shall provide for control of water or gas intrusion.

(e) *Underground openings.* (1) Openings in the underground facility shall be designed so that operations can be carried out safely and the retrievability option maintained.

(2) Openings in the underground facility shall be designed to reduce the potential for deleterious rock movement or fracturing of overlying or surrounding rock.

(f) *Rock excavation.* The design of the underground facility shall incorporate excavation methods that will limit the potential for creating a preferential pathway for groundwater to contact the waste packages or radionuclide migration to the accessible environment.

(g) *Underground facility ventilation.* The ventilation system shall be designed to:

(1) Control the transport of radioactive particulates and gases within and releases from the underground facility in accordance with the performance objectives of § 60.111(a),

(2) Assure continued function during normal operations and under accident conditions; and

(3) Separate the ventilation of excavation and waste emplacement areas.

(h) *Engineered barriers.* Engineered barriers shall be designed to assist the geologic setting in meeting the performance objectives for the period following permanent closure.

(i) *Thermal loads.* The underground facility shall be designed so that the performance objectives will be met taking into account the predicted thermal and thermomechanical response of the host rock, and surrounding strata, groundwater system.

[48 FR 28222, June 21, 1983, as amended at 50 FR 29648, July 22, 1985]

§ 60.134 Design of seals for shafts and boreholes.

(a) *General design criterion.* Seals for shafts and boreholes shall be designed so that following permanent closure they do not become pathways that compromise the geologic repository's ability to meet the performance objectives or the period following permanent closure.

(b) *Selection of materials and placement methods.* Materials and placement methods for seals shall be selected to reduce, to the extent practicable:

(1) The potential for creating a preferential pathway for groundwater to contact the waste packages or

(2) For radionuclide migration through existing pathways.

[48 FR 28222, June 21, 1983, as amended at 50 FR 29648, July 22, 1985]

Design Criteria for the Waste Package

§ 60.135 Criteria for the waste package and its components.

(a) *High-level-waste package design in general.* (1) Packages for HLW shall be designed so that the in situ chemical, physical, and nuclear properties of the waste package and its interactions with the emplacement environment do not compromise the function of the waste packages or the performance of the underground facility or the geologic setting.

(2) The design shall include but not be limited to consideration of the following factors: solubility, oxidation/reduction reactions, corrosion, hydriding, gas generation, thermal effects, mechanical strength, mechanical stress, radiolysis, radiation damage, radionuclide retardation, leaching, fire and explosion hazards, thermal loads, and synergistic interactions.

(b) *Specific criteria for HLW package design*—(1) *Explosive, pyrophoric, and chemically reactive materials.* The waste package shall not contain explosive or pyrophoric materials or chemically reactive materials in an amount that could compromise the ability of the underground facility to contribute to waste isolation or the ability of the geologic repository to satisfy the performance objectives.

(2) *Free liquids.* The waste package shall not contain free liquids in an amount that could compromise the ability of the waste packages to achieve the performance objectives relating to containment of HLW (because of chemical interactions or formation of pressurized vapor) or result in spillage and spread of contamination in the event of waste package perforation during the period through permanent closure.

(3) *Handling.* Waste packages shall be designed to maintain waste containment during transportation, emplacement, and retrieval.

(4) *Unique identification.* A label or other means of identification shall be provided for each waste package. The identification shall not impair the integrity of the waste package and shall be applied in such a way that the information shall be legible at least to the end of the period of retrievability. Each waste package identification shall be consistent with the waste package's permanent written records.

(c) Waste form criteria for HLW. High-level radioactive waste that is emplaced in the underground facility shall be designed to meet the following criteria:

(1) *Solidification.* All such radioactive wastes shall be in solid form and placed in sealed containers.

(2) *Consolidation.* Particulate waste forms shall be consolidated (for example, by incorporation into an encapsulating matrix) to limit the availability and generation of particulates.

(3) *Combustibles.* All combustible radioactive wastes shall be reduced to a noncombustible form unless it can be demonstrated that a fire involving the waste packages containing combustibles will not compromise the integrity of other waste packages, adversely affect any structures, systems, or components important to safety, or compromise the ability of the underground facility to contribute to waste isolation.

(d) *Design criteria for other radioactive wastes.* Design criteria for waste types other than HLW will be addressed on an individual basis if and when they are proposed for disposal in a geologic repository.

Performance Confirmation Requirements

§ 60.137 General requirements for performance confirmation.

The geologic repository operations area shall be designed so as to permit implementation of a performance confirmation program that meets the requirements of subpart F of this part.

Subpart F—Performance Confirmation Program

SOURCE: 48 FR 28228, June 21, 1983, unless otherwise noted.

§ 60.140 General requirements.

(a) The performance confirmation program shall provide data which indicates, where practicable, whether:

(1) Actual subsurface conditions encountered and changes in those conditions during construction and waste emplacement operations are within the limits assumed in the licensing review; and

(2) Natural and engineered systems and components required for repository operation, or which are designed or assumed to operate as barriers after permanent closure, are functioning as intended and anticipated.

(b) The program shall have been started during site characterization and it will continue until permanent closure.

(c) The program shall include in situ monitoring, laboratory and field testing, and in situ experiments, as may be appropriate to accomplish the objective as stated above.

(d) The program shall be implemented so that:

(1) It does not adversely affect the ability of the natural and engineered elements of the geologic repository to meet the performance objectives.

(2) It provides baseline information and analysis of that information on those parameters and natural processes pertaining to the geologic setting that may be changed by site characterization, construction, and operational activities.

(3) It monitors and analyzes changes from the baseline condition of parameters that could affect the performance of a geologic repository.

(4) It provides an established plan for feedback and analysis of data, and implementation of appropriate action.

§ 60.141 Confirmation of geotechnical and design parameters.

(a) During repository construction and operation, a continuing program of surveillance, measurement, testing, and geologic mapping shall be conducted to ensure that geotechnical and design parameters are confirmed and to ensure that appropriate action is taken to inform the Commission of changes needed in design to accommodate actual field conditions encountered.

(b) Subsurface conditions shall be monitored and evaluated against design assumptions.

(c) As a minimum, measurements shall be made of rock deformations and displacement, changes in rock stress and strain, rate and location of water inflow into subsurface areas, changes in groundwater conditions, rock pore water pressures including those along fractures and joints, and the thermal and thermomechanical response of the rock mass as a result of development and operations of the geologic repository.

(d) These measurements and observations shall be compared with the original design bases and assumptions. If significant differences exist between the measurements and observations and the original design bases and assumptions, the need for modifications to the design or in construction methods shall be determined and these differences and the recommended changes reported to the Commission.

(e) In situ monitoring of the thermomechanical response of the underground facility shall be conducted until permanent closure to ensure that the performance of the natural and engineering features are within design limits.

§ 60.142 Design testing.

(a) During the early or developmental stages of construction, a program for in situ testing of such features as borehole and shaft seals, backfill, and the thermal interaction effects of the waste packages, backfill, rock, and groundwater shall be conducted.

(b) The testing shall be initiated as early as is practicable.

(c) A backfill test section shall be constructed to test the effectiveness of backfill placement and compaction procedures against design requirements before permanent backfill placement is begun.

(d) Test sections shall be established to test the effectiveness of borehole and shaft seals before full-scale operation proceeds to seal boreholes and shafts.

§ 60.143 Monitoring and testing waste packages.

(a) A program shall be established at the geologic repository operations area for monitoring the condition of the waste packages. Waste packages chosen for the program shall be representative of those to be emplaced in the underground facility.

(b) Consistent with safe operation at the geologic repository operations area, the environment of the waste packages selected for the waste package monitoring program shall be representative of the environment in which the wastes are to be emplaced.

(c) The waste package monitoring program shall include laboratory experiments which focus on the internal condition of the waste packages. To the extent practical, the environment experienced by the emplaced waste packages within the underground facility during the waste package monitoring program shall be duplicated in the laboratory experiments.

(d) The waste package monitoring program shall continue as long as practical up to the time of permanent closure.

Subpart G—Quality Assurance

SOURCE: 48 FR 28228, June 21, 1983, unless otherwise noted.

§ 60.150 Scope.

As used in this part, *quality assurance* comprises all those planned and systematic actions necessary to provide adequate confidence that the geologic repository and its subsystems or components will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to the physical characteristics of a material, structure, component, or system which provide a means to control the quality of the material, structure, component, or system to predetermined requirements.

§ 60.151 Applicability.

The quality assurance program applies to all systems, structures and components important to safety, to design and characterization of barriers important to waste isolation and to activities related thereto. These activities include: site characterization, facility and equipment construction, facility operation, performance confirmation, permanent closure, and decontamination and dismantling of surface facilities.

§ 60.152 Implementation.

DOE shall implement a quality assurance program based on the criteria of appendix B of 10 CFR part 50 as applicable, and appropriately supplemented by additional criteria as required by § 60.151.

Subpart H—Training and Certification of Personnel

SOURCE: 48 FR 28229, June 21, 1983, unless otherwise noted.

§ 60.160 General requirements.

Operations of systems and components that have been identified as important to safety in the Safety Analysis Report and in the license shall be performed only by trained and certified personnel or by personnel under the direct visual supervision of an individual with training and certification in such operation. Supervisory personnel who direct operations that are important to safety must also be certified in such operations.

§ 60.161 Training and certification program.

DOE shall establish a program for training, proficiency testing, certification and requalification of operating and supervisory personnel.

§ 60.162 Physical requirements.

The physical condition and the general health of personnel certified for operations that are important to safety shall not be such as might cause operational errors that could endanger the public health and safety. Any condition which might cause impaired judgment or motor coordination must be considered in the selection of personnel for activities that are important to safety. These conditions need not categorically disqualify a person, so long as appropriate provisions are made to accommodate such conditions.

Subpart I—Emergency Planning Criteria [Reserved]

PART 61—LICENSING REQUIREMENTS FOR LAND DISPOSAL OF RADIOACTIVE WASTE

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AUTHORITY: Secs. 53, 57, 62, 63, 65, 81, 161, 182, 68 Stat. 930, 932, 933, 935, 948, 953, 954, as amended (42 U.S.C. 2073, 2077, 2092, 2093, 2095, 2111, 2201, 2232, 2233); secs. 202, 206, 88 Stat. 1244, 1246 (42 U.S.C. 5842, 5846); secs. 10 and 14, Pub. L. 95-601, 92 Stat. 2951 (42 U.S.C. 2021a and 5851).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273; Tables 1 and 2 §§ 61.3, 61.9(f), 61.24, 61.25, 61.27(a), 61. through 61.43, 61.52, 61.53, 61.55, 61.56, and 61.61 through 61.63 are issued under secs. 161b. 161i and 161o, 68 Stat. 948, 949, and 950 as amended (42 U.S.C. 2201(b), 2201(i) and 2201(o)); §§ 61.9a, 61.10 through 61.16, 61.24 and 61.80 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 47 FR 57463, Dec. 27, 1982, unless otherwise noted.

Subpart A—General Provisions

§ 61.1 Purpose and scope.

(a) The regulations in this part establish, for land disposal of radioactive waste, the procedures, criteria, and terms and conditions upon which the Commission issues licenses for the disposal of radioactive wastes containing byproduct, source and special nuclear material received from other persons. Disposal of waste by an individual licensee is set forth in part 20 of this chapter. Applicability of the requirements in this part to Commission licenses for waste disposal facilities in effect on the effective date of this rule will be determined on a case-by-case basis and implemented through terms and conditions of the license or by orders issued by the Commission.

(b) Except as provided in part 150 of this chapter, which addresses assumption of certain regulatory authority by Agreement States, and § 61.6 "Exemptions," the regulations in this part apply to all persons in the United States. The regulations in this part do not apply to (1) disposal of high-level waste as provided for in part 60 of this chapter; (2) disposal of uranium or thorium tailings or wastes (byproduct material as defined in § 40.4(a-1)) as provided for in part 40 of this chapter in quantities greater than 10,000 kilograms and containing more than five (5) millicuries of radium-226; or (3) disposal of licensed material as provided for in part 20 of this chapter.

§ 61.2 Definitions.

As used in this part:

Active maintenance means any significant remedial activity needed during the period of institutional control to maintain a reasonable assurance that the performance objectives in §§ 61.41 and 61.42 are met. Such active maintenance includes ongoing activities such as the pumping and treatment of water from a disposal unit or one-time measures such as replacement of a disposal unit cover. Active maintenance does not include custodial activities such as repair of fencing, repair or replacement of monitoring equipment, revegetation, minor additions to soil cover, minor repair of disposal unit covers, and general disposal site upkeep such as mowing grass.

Buffer zone is a portion of the disposal site that is controlled by the licensee and that lies under the disposal units and between the disposal units and the boundary of the site.

Chelating agent means amine polycarboxylic acids (e.g., EDTA, DTPA), hydroxy-carboxylic acids, and polycarboxylic acids (e.g., citric acid, carbolic acid, and glucinic acid).

Commencement of construction means any clearing of land, excavation, or other substantial action that would adversely affect the environment of a land disposal facility. The term does not mean disposal site exploration, necessary roads for disposal site exploration, borings to determine foundation conditions, or other preconstruction monitoring or testing to establish background information related to the suitability of the disposal site or the protection of environmental values.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Custodial Agency means an agency of the government designated to act on behalf of the government owner of the disposal site.

Director means the Director, Office of Nuclear Material Safety and Safeguards, U. S. Nuclear Regulatory Commission.

Disposal means the isolation of radioactive wastes from the biosphere inhabited by man and containing his food chains by emplacement in a land disposal facility.

Disposal site means that portion of a land disposal facility which is used for disposal of waste. It consists of disposal units and a buffer zone.

Disposal unit means a discrete portion of the disposal site into which waste is placed for disposal. For near-surface disposal the unit is usually a trench.

Engineered barrier means a man-made structure or device that is intended to improve the land disposal facility's ability to meet the performance objectives in subpart C.

Explosive material means any chemical compound, mixture, or device, which produces a substantial instantaneous release of gas and heat spontaneously or by contact with sparks or flame.

Government agency means any executive department, commission, independent establishment, or corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States; or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the government.

Hazardous waste means those wastes designated as hazardous by Environmental Protection Agency regulations in 40 CFR part 261.

Hydrogeologic unit means any soil or rock unit or zone which by virtue of its porosity or permeability, or lack thereof, has a distinct influence on the storage or movement of groundwater.

Inadvertent intruder means a person who might occupy the disposal site after closure and engage in normal activities, such as agriculture, dwelling construction, or other pursuits in which the person might be unknowingly exposed to radiation from the waste.

Indian Tribe means an Indian tribe as defined in the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450).

Intruder barrier means a sufficient depth of cover over the waste that inhibits contact with waste and helps to ensure that radiation exposures to an inadvertent intruder will meet the performance objectives set forth in this part, or engineered structures that provide equivalent protection to the inadvertent intruder.

Land disposal facility means the land, buildings, and equipment which is intended to be used for the disposal of radioactive wastes into the subsurface of the land. For purposes of this chapter, a geologic repository as defined in part 60 is not considered a land disposal facility.

License means a license issued under the regulations in part 61 of this chapter. *Licensee* means the holder of such a license.

Monitoring means observing and making measurements to provide data to evaluate the performance and characteristics of the disposal site.

Near-surface disposal facility means a land disposal facility in which radioactive waste is disposed of in or within the upper 30 meters of the earth's surface.

Person means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, government agency other than the Commission or the Department of Energy (except that the Department of Energy is considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to law), any State or any political subdivision of or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

Pyrophoric liquid means any liquid that ignites spontaneously in dry or moist air at or below 130°F (54.5°C). A pyrophoric solid is any solid material, other than one classed as an explosive, which under normal conditions is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation, handling, or disposal hazard. Included are spontaneously combustible and water-reactive materials.

Site closure and stablization means those actions that are taken upon completion of operations that prepare the disposal site for custodial care and that assure that the disposal site will remain stable and will not need ongoing active maintenance.

State means any State, Territory, or possession of the United States, Puerto Rico, and the District of Columbia.

Stability means structural stability

Surveillance means observation of the disposal site for purposes of visual detection of need for maintenance, custodial care, evidence of intrusion, and compliance with other license and regulatory requirements.

Tribal Governing Body means a Tribal organization as defined in the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450).

Waste means those low-level radioactive wastes containing source, special nuclear, or byproduct material that are acceptable for disposal in a land disposal facility. For the purposes of this definition, low-level waste has the same meaning as in the Low-Level Waste Policy Act, that is, radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act (uranium or thorium tailings and waste).

[47 FR 57463, Dec. 27, 1982, as amended at 54 FR 22583, May 25, 1989]

§ 61.3 License required.

(a) No person may receive, possess, and dispose of radioactive waste containing source, special nuclear, or byproduct material at a land disposal facility unless authorized by a license issued by the Commission pursuant to this part, or unless exemption has been granted by the Commission under § 61.6 of this part.

(b) Each person shall file an application with the Commission and obtain a license as provided in this part before commencing construction of a land disposal facility. Failure to comply with this requirement may be grounds for denial of a license.

§ 61.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part and applications filed under them should be addressed to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Communications, reports, and applications may be delivered in person at the Commission's Offices at 2120 L Street NW, Washington, DC, or 11555 Rockville Pike, Rockville, MD.

[53 FR 4111, Feb. 12, 1988, as amended at 53 FR 43421, Oct. 27, 1988]

§ 61.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be considered binding upon the Commission.

§ 61.6 Exemptions.

The Commission may, upon application by any interested person, or upon its own initiative, grant any exemption from the requirements of the regulations in this part as it determines is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest.

§ 61.7 Concepts.

(a) *The disposal facility.* (1) Part 61 is intended to apply to land disposal of radioactive waste and not to other methods such as sea or extraterrestrial disposal. Part 61 contains procedural requirements and performance objectives applicable to any method of land disposal. It contains specific technical requirements for near-surface disposal of radioactive waste which involves disposal in the uppermost portion of the earth, approximately 30 meters. Burial deeper than 30 meters may also be satisfactory. Technical requirements for alternative methods will be added in the future.

(2) Near-surface disposal of radioactive waste takes place at a near-surface disposal facility, which includes all of the land and buildings necessary to carry out the disposal. The disposal site is that portion of the facility which is used for disposal of waste and consists of disposal units and a buffer zone. A disposal unit is a discrete portion of the disposal site into which waste is placed for disposal. For near-surface disposal, the disposal unit is usually a trench. A buffer zone is a portion of the disposal site that is controlled by the licensee and that lies under the site and between the boundary of the disposal site and any dispos-

al unit. It provides controlled space to establish monitoring locations which are intended to provide an early warning of radionuclide movement, and to take mitigative measures if needed. In choosing a disposal site, site characteristics should be considered in terms of the indefinite future and evaluated for at least a 500 year time frame.

(b) *Waste classification and near-surface disposal.* (1) Disposal of radioactive waste in near-surface disposal facilities has the following safety objectives: protection of the general population from releases of radioactivity, protection of individuals from inadvertent intrusion, and protection of individuals during operations. A fourth objective is to ensure stability of the site after closure.

(2) A cornerstone of the system is stability—stability of the waste and the disposal site so that once emplaced and covered, the access of water to the waste can be minimized. Migration of radionuclides is thus minimized, long-term active maintenance can be avoided, and potential exposures to intruders reduced. While stability is a desirable characteristic for all waste much radioactive waste does not contain sufficient amounts of radionuclides to be of great concern from these standpoints; this waste, however, tends to be unstable, such as ordinary trash type wastes. If mixed with the higher activity waste, their deterioration could lead to failure of the system and permit water to penetrate the disposal unit and cause problems with the higher activity waste. Therefore, in order to avoid placing requirements for a stable waste form on relatively innocuous waste, these wastes have been classed as Class A waste. The Class A waste will be disposed of in separate disposal units at the disposal site. However, Class A waste that is stable may be mixed with other classes of waste. Those higher activity wastes that should be stable for proper disposal are classed as Class B and C waste. To the extent that it is practicable, Class B and C waste forms or containers should be designed to be stable, i.e., maintain gross physical properties and identity, over 300 years. For certain radionuclides prone to migration, a maximum disposal site inventory based on the characteristics of the disposal site may be established to limit potential exposure.

(3) It is possible but unlikely that persons might occupy the site in the future and engage in normal pursuits without knowing that they were receiving radiation exposure. These persons are referred to as inadvertent intruders. Protection of such intruders can involve two principal controls: institutional control over the site after operations by the site owner to ensure that no such occupation or improper use of the site occurs; or, designating which waste could present an unacceptable risk to an intruder, and disposing of this waste in a manner that provides some form of intruder barrier that is intended to prevent contact with the waste. This regulation incorporates both types of protective controls.

(4) Institutional control of access to the site is required for up to 100 years. This permits the disposal of Class A and Class B waste without special provisions for intrusion protection, since these classes of waste contain types and quantities of radioisotopes that will decay during the 100-year period and will present an acceptable hazard to an intruder. The government landowner administering the active institutional control program has flexibility in controlling site access which may include allowing productive uses of the land provided the integrity and long-term performance of the site are not affected.

(5) Waste that will not decay to levels which present an acceptable hazard to an intruder within 100 years is designated as Class C waste. This waste is disposed of at a greater depth than the other classes of waste so that subsequent surface activities by an intruder will not disturb the waste. Where site conditions prevent deeper disposal, intruder barriers such as concrete covers may be used. The effective life of these intruder barriers should be 500 years. A maximum concentration of radionuclides is specified for all wastes so that at the end of the 500 year period, remaining radioactivity will be at a level that does not pose an unacceptable hazard to an intruder or public health and safety. Waste

with concentrations above these limits is generally unacceptable for near-surface disposal. There may be some instances where waste with concentrations greater than permitted for Class C would be acceptable for near-surface disposal with special processing or design. These will be evaluated on a case-by-case basis. Class C waste must also be stable.

(c) *The licensing process.* (1) During the preoperational phase, the potential applicant goes through a process of disposal site selection by selecting a region of interest, examining a number of possible disposal sites within the area of interest and narrowing the choice to the proposed site. Through a detailed investigation of the disposal site characteristics the potential applicant obtains data on which to base an analysis of the disposal site's suitability. Along with these data and analyses, the applicant submits other more general information to the Commission in the form of an application for a license for land disposal. The Commission's review of the application is in accordance with administrative procedures established by rule and may involve participation by affected State governments or Indian tribes. While the proposed disposal site must be owned by a State or the Federal government before the Commission will issue a license, it may be privately owned during the preoperational phase if suitable arrangements have been made with a State or the Federal government to take ownership in fee of the land before the license is issued.

(2) During the operational phase, the licensee carries out disposal activities in accordance with the requirements of this regulation and any conditions on the license. Periodically, the authority to conduct the above ground operations and dispose of waste will be subject to a license renewal, at which time the operating history will be reviewed and a decision made to permit or deny continued operation. When disposal operations are to cease, the licensee applies for an amendment to his license to permit site closure. After final review of the licensee's site closure and stabilization plan, the Commission may approve the final activities necessary to prepare the disposal site so that ongoing active maintenance of the site is not required during the period of institutional control.

(3) During the period when the final site closure and stabilization activities are being carried out, the licensee is in a disposal site closure phase. Following that, for a period of 5 years, the licensee must remain at the disposal site for a period of post-closure observation and maintenance to assure that the disposal site is stable and ready for institutional control. The Commission may approve shorter or require longer periods if conditions warrant. At the end of this period, the licensee applies for a license transfer to the disposal site owner.

(4) After a finding of satisfactory disposal site closure, the Commission will transfer the license to the State or Federal government that owns the disposal site. If the Department of Energy is the Federal agency administering the land on bahalf of the Federal government the license will be terminated because the Commission lacks regulatory authority over the Department for this activity. Under the conditions of the transferred license, the owner will carry out a program of monitoring to assure continued satisfactory disposal site performance, physical surveillance to restrict access to the site and carry out minor custodial activities. During this period, productive uses of the land might be permitted if those uses do not affect the stability of the site and its ability to meet the performance objectives. At the end of the prescribed period of institutional control, the license will be terminated by the Commission.

§ 61.8 Reporting, recordkeeping, and application requirements: OMB approval not required.

The information collection requirements contained in this part affect fewer than ten persons. Therefore, under section 3506(c)(5) of the Paperwork Reduction Act of 1980 (Pub. L. 96-511), OMB clearance is not required for these information collection requirements.

§ 61.9 Employee protection.

(a) Discrimination by a Commission licensee, an applicant for a Commission licensee, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, and privileges of employment. The protected activities are established in section 210 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to:

(i) Providing the Commission information about possible violations of requirements imposed under either of the above statutes;

(ii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements; or

(iii) Testifying in any Commission proceeding.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in the protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 30 days after an alleged violation occurs by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraph (a) or paragraph (f) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for—

(1) Denial, revocation, or suspension of the license.

(2) Imposition of a civil penalty on the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by non-prohibited considerations.

(e) Each licensee and each applicant shall post Form NRC-3, "Notice to Employees," on its premises. Posting must be at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. Premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

(f) No agreement affecting the compensation, terms, conditions and privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 210 of the Energy Reorganization Act of 1974, may contain any provision which would prohibit, restrict, or otherwise discourage, an employee from participating in protected activity as defined in paragraph (a)(1) of this section, including, but not limited to, providing information to the NRC on potential violations or other matters within NRC's regulatory responsibilities.

NOTE: Copies of Form NRC-3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D, part 20 of this chapter.

[47 FR 57463, Dec. 27, 1982, as amended at 52 FR 31612, Aug. 21, 1987; 55 FR 10405, Mar. 21, 1990]

§ 61.9a Completeness and accuracy of information.

(a) Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

(b) Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Commission of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification shall be provided to the Administrator of the appropriate Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the Commission by other reporting or updating requirements.

[52 FR 49372, Dec. 31, 1987]

Subpart B—Licenses

§ 61.10 Content of application.

An application to receive from others, possess and dispose of wastes containing or contaminated with source, byproduct or special nuclear material by land disposal must consist of general information, specific technical information, institutional information, and financial information as set forth in §§ 61.11 through 61.16. An environmental report prepared in accordance with subpart A of part 51 of this chapter must accompany the application.

[49 FR 9405, Mar. 12, 1984]

§ 61.11 General information.

The general information must include each of the following:

(a) Identity of the applicant including:

(1) The full name, address, telephone number and description of the business or occupation of the applicant;

(2) If the applicant is a partnership, the name, and address of each partner and the principal location where the partnership does business;

(3) If the applicant is a corporation or an unincorporated association, (i) the state where it is incorporated or organized and the principal location where it does business, and (ii) the names and addresses of its directors and principal officers; and

(4) If the applicant is acting as an agent or representative of another person in filing the application, all information required under this paragraph must be supplied with respect to the other person.

(b) Qualifications of the applicant:

(1) The organizational structure of the applicant, both offsite and onsite, including a description of lines of authority and assignments of responsibilities, whether in the form of administrative directives, contract provisions, or otherwise;

(2) The technical qualifications, including training and experience, of the applicant and members of the applicant's staff to engage in the proposed activities. Minimum training and experience requirements for personnel filling key positions described in paragraph (b)(1) of this section must be provided;

(3) A description of the applicant's personnel training program; and

(4) The plan to maintain an adequate complement of trained personnel to carry out waste receipt, handling, and disposal operations in a safe manner.

(c) A description of:

(1) The location of the proposed disposal site;

(2) The general character of the proposed activities;

(3) The types and quantities of radioactive waste to be received, possessed, and disposed of;

(4) Plans for use of the land disposal facility for purposes other than disposal of radioactive wastes; and

(5) The proposed facilities and equipment.

(d) Proposed schedules for construction, receipt of waste, and first emplacement of waste at the proposed land disposal facility.

§ 61.12 Specific technical information.

The specific technical information must include the following information needed for demonstration that the performance objectives of subpart C of this part and the applicable technical requirements of subpart D of this part will be met:

(a) A description of the natural and demographic disposal site characteristics as determined by disposal site selection and characterization activities. The description must include geologic, geotechnical, hydrologic, meteorologic, climatologic, and biotic features of the disposal site and vicinity.

(b) A description of the design features of the land disposal facility and the disposal units. For near-surface disposal, the description must include those design features related to infiltration of water; integrity of covers for disposal units; structural stability of backfill, wastes, and covers; contact of wastes with standing water; disposal site drainage; disposal site closure and stabilization; elimination to the extent practicable of long-term disposal site maintenance; inadvertent intrusion; occupational exposures; disposal site monitoring; and adequacy of the size of the buffer zone for monitoring and potential mitigative measures.

(c) A description of the principal design criteria and their relationship to the performance objectives.

(d) A description of the design basis natural events or phenomena and their relationship to the principal design criteria.

(e) A description of codes and standards which the applicant has applied to the design and which will apply to construction of the land disposal facilities.

(f) A description of the construction and operation of the land disposal facility. The description must include as a minimum the methods of construction of disposal units; waste emplacement; the procedures for and areas of waste segregation; types of intruder barriers; onsite traffic and drainage systems; survey control program; methods and areas of waste storage; and methods to control surface water and groundwater access to the wastes. The description must also include a description of the methods to be employed in the handling and disposal of wastes containing chelating agents or other non-radiological substances that might affect meeting the performance objectives in subpart C of this part.

(g) A description of the disposal site closure plan, including those design features which are intended to facilitate disposal site closure and to eliminate the need for ongoing active maintenance.

(h) An identification of the known natural resources at the disposal site, the exploitation of which could result in inadvertent intrusion into the low-level wastes after removal of active institutional control.

(i) A description of the kind, amount, classification and specifications of the radioactive material proposed to be received, possessed, and disposed of at the land disposal facility.

(j) A description of the quality control program for the determination of natural disposal site characteristics and for quality control during the design, construction, operation and closure of the land disposal facility and the receipt, handling, and emplacement of waste. Audits and managerial controls must be included.

(k) A description of the radiation safety program for control and monitoring of radioactive effluents to ensure compliance with the performance objective in § 61.41 of this part and occupational radiation exposure to ensure compliance with the requirements of part 20 of this chapter and to control contamination of personnel, vehicles, equipment, buildings, and the disposal site. Both routine operations and accidents must be addressed. The program description must include procedures, instrumentation, facilities, and equipment.

(l) A description of the environmental monitoring program to provide data to evaluate potential health and environmental impacts and the plan for taking corrective measures if migration of radionuclides is indicated.

(m) A description of the administrative procedures that the applicant will apply to control activities at the land disposal facility.

§ 61.13 Technical analyses.

The specific technical information must also include the following analyses needed to demonstrate that the performance objectives of subpart C of this part will be met:

(a) Pathways analyzed in demonstrating protection of the general population from releases of radioactivity must include air, soil, groundwater, surface water, plant uptake, and exhumation by burrowing animals. The analyses must clearly identify and differentiate between the roles performed by the natural disposal site characteristics and design features in isolating and segregating the wastes. The analyses must clearly demonstrate that there is reasonable assurance that the exposure to humans from the release of radioactivity will not exceed the limits set forth in § 61.41.

(b) Analyses of the protection of individuals from inadvertent intrusion must include demonstration that there is reasonable assurance the waste classification and segregation requirements will be met and that adequate barriers to inadvertent intrusion will be provided.

(c) Analyses of the protection of individuals during operations must include assessments of expected exposures due to routine operations and likely accidents during handling, storage, and disposal of waste. The analyses must provide reasonable assurance that exposures will be controlled to meet the requirements of part 20 of this chapter.

(d) Analyses of the long-term stability of the disposal site and the need for ongoing active maintenance after closure must be based upon analyses of active natural processes such as erosion, mass wasting, slope failure, settlement of wastes and backfill, infiltration through covers over disposal areas and adjacent soils, and surface drainage of the disposal site. The analyses must provide reasonable assurance that there will not be a need for ongoing active maintenance of the disposal site following closure.

§ 61.14 Institutional information.

The institutional information must include:

(a) A certification by the Federal or State government which owns the disposal site that the Federal or State government is prepared to accept transfer of the license when the provisions of § 61.30 are met, and will assume responsibility for custodial care after site closure and postclosure observation and maintenance.

(b) Where the proposed disposal site is on land not owned by the Federal or a State government, the applicant must submit evidence that arrangements have been made for assumption of ownership in fee by the Federal or a State government before the Commission issues a license.

§ 61.15 Financial information.

The financial information must be sufficient to demonstrate that the financial qualifications of the applicant are adequate to carry out the activities for which the license is sought and meet other financial assurance requirements as specified in subpart E of this part.

§ 61.16 Other information.

Depending upon the nature of the wastes to be disposed of, and the design and proposed operation of the land disposal facility, additional information may be requested by the Commission including the following:

(a) Physical security measures, if appropriate. Any application to receive and possess special nuclear material in quantities subject to the requirements of part 73 of this chapter shall demonstrate how the physical security requirements of part 73 will be met. In determining whether receipt and possession will be subject to the requirements of part 73, the applicant shall not consider the quantity of special nuclear material that has been disposed of.

(b) Safety information concerning criticality, if appropriate.

(1) Any application to receive and possess special nuclear material in quantities that would be subject to the requirements of § 70.24, "Criticality accident requirements" of part 70 of this chapter shall demonstrate how the requirements of that section will be met, unless the applicant requests an exemption pursuant to § 70.24(d). In determining whether receipt and possession would be subject to the requirements of § 70.24, the applicant shall not consider the quantity of special nuclear material that has been disposed of.

(2) Any application to receive and possess special nuclear material shall describe proposed procedures for avoiding accidental criticality, which address both storage of special nuclear material prior to disposal and waste emplacement for disposal.

§ 61.20 Filing and distribution of application.

(a) An application for a license under this part, and any amendments thereto, shall be filed with the Director, must be signed by the applicant or the applicant's authorized representative under oath, and must consist of 1 signed original and 2 copies.

(b) Another 85 copies of the application must be retained by the applicant for distribution in accordance with written instructions from the Director or designee.

(c) *Fees.* Application, amendment, and inspection fees applicable to a license covering the receipt and disposal of radioactive wastes in a land disposal facility are required by part 170 of this chapter.

[47 FR 57463, Dec. 27, 1982, as amended at 49 FR 9405, Mar. 12, 1984]

§ 61.21 Elimination of repetition.

In its application, the applicant may incorporate by reference information contained in previous applications, statements, or reports filed with the Commission if these references a clear and specific.

[49 FR 9405, Mar. 12, 1984]

§ 61.22 Updating of application.

(a) The application must be as com plete as possible in the light of infor mation that is available at the time o submittal.

(b) The applicant shall supplemen its application in a timely manner, a necessary, to permit the Commissio to review, prior to issuance of a li cense, any changes in the activitie proposed to be carried out or new in formation regarding the proposed a tivities.

[49 FR 9405, Mar. 12, 1984]

§ 61.23 Standards for issuance of a li cense.

A license for the receipt, possessio and disposal of waste containing o contaminated with source, special n clear, or byproduct material will b issued by the Commission upon fin ing that the issuance of the licens will not be inimical to the common d fense and security and will not consti tute an unreasonable risk to th health and safety of the public, and:

(a) The applicant is qualified b reason of training and experience t carry out the disposal operations re quested in a manner that protec health and minimizes danger to life o property.

(b) The applicant's proposed dispo al site, disposal design, land dispos facility operations (including equi ment, facilities, and procedures), di posal site closure, and postclosure i stitutional control are adequate t protect the public health and safety a that they provide reasonable assu ance that the general population wi be protected from releases of radioa tivity as specified in the performanc objective in § 61.41, Protection of th general population from releases of r dioactivity.

(c) The applicant's proposed dispos site, disposal site design, land dispos facility operations (including equi ment, facilities, and procedures), di posal site closure, and postclosure i stitutional control are adequate t protect the public health and safety in that they will provide reasonable assurance that individual inadvertent intruders are protected in accordance with the performance objective in § 61.42, Protection of individuals from inadvertent intrusion.

(d) The applicant's proposed land disposal facility operations, including equipment, facilities, and procedures, are adequate to protect the public health and safety in that they will provide reasonable assurance that the standards for radiation protection set out in part 20 of this chapter will be met.

(e) The applicant's proposed disposal site, disposal site design, land disposal facility operations, disposal site closure, and postclosure institutional control are adequate to protect the public health and safety in that they will provide reasonable assurance that long-term stability of the disposed waste and the disposal site will be achieved and will eliminate to the extent practicable the need for ongoing active maintenance of the disposal site following closure.

(f) The applicant's demonstration provides reasonable assurance that the applicable technical requirements of subpart D of this part will be met.

(g) The applicant's proposal for institutional control provides reasonable assurance that institutional control will be provided for the length of time found necessary to ensure the findings in paragraphs (b) through (e) of this section and that the institutional control meets the requirements of § 61.59, Institutional requirements.

(h) The information on financial assurances meets the requirements of subpart E of this part.

(i) The applicant's physical security information provides reasonable assurance that the requirements of part 73 of this chapter will be met, insofar as they are applicable to special nuclear material to be possessed before disposal under the license.

(j) The applicant's criticality safety procedures are adequate to protect the public health and safety and provide reasonable assurance that the requirements of § 70.24, Criticality accident requirements, of part 70 of this chapter will be met, insofar as they are applicable to special nuclear material to be possessed before disposal under the license.

(k) Any additional information submitted as requested by the Commission pursuant to § 61.16, Other information, is adequate.

(l) The requirements of subpart A of part 51 of this chapter have been met.

[47 FR 57463, Dec. 27, 1982, as amended at 49 FR 9405, Mar. 12, 1984]

§ 61.24 Conditions of licenses.

(a) A license issued under this part, or any right thereunder, may be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, only if the Commission finds, after securing full information, that the transfer is in accordance with the provisions of the Atomic Energy Act and gives its consent in writing in the form of a license amendment.

(b) The licensee shall submit written statements under oath upon request of the Commission, at any time before termination of the license, to enable the Commission to determine whether or not the license should be modified, suspended, or revoked.

(c) The license will be transferred to the site owner only on the full implementation of the final closure plan as approved by the Commission, including post-closure observation and maintenance.

(d) The licensee shall be subject to the provisions of the Atomic Energy Act now or hereafter in effect, and to all rules, regulations, and orders of the Commission. The terms and conditions of the license are subject to amendment, revision, or modification, by reason of amendments to, or by reason of rules, regulations, and orders issued in accordance with the terms of the Atomic Energy Act.

(e) Any license may be revoked, suspended or modified in whole or in part for any material false statement in the application or any statement of fact required under Section 182 of the Act, or because of conditions revealed by any application or statement of fact or any report, record, or inspection or other means which would warrant the

Commission to refuse to grant a license to the original application, or for failure to operate the facility in accordance with the terms of the license, or for any violation of, or failure to observe any of the terms and conditions of the Act, or any rule, regulation, license or order of the Commission.

(f) Each person licensed by the Commission pursuant to the regulations in this part shall confine possession and use of materials to the locations and purposes authorized in the license.

(g) No radioactive waste may be disposed of until the Commission has inspected the land disposal facility and has found it to be in conformance with the description, design, and construction described in the application for a license.

(h) The Commission may incorporate in any license at the time of issuance, or thereafter, by appropriate rule, regulation or order, additional requirements and conditions with respect to the licensee's receipt, possession, and disposal of source, special nuclear or byproduct material as it deems appropriate or necessary in order to:

(1) Promote the common defense and security;

(2) Protect health or to minimize danger to life or property;

(3) Require reports and the keeping of records, and to provide for inspections of activities under the license that may be necessary or appropriate to effectuate the purposes of the Act and regulations thereunder.

(i) Any licensee who receives and possesses special nuclear material under this part in quantities that would be subject to the requirements of § 70.24 of part 70 of this chapter shall comply with the requirements of that section. The licensee shall not consider the quantity of special nuclear material that has been disposed of.

(j) The authority to dispose of wastes expires on the date stated in the license except as provided in § 61.27(a) of this part.

(k)(1) Each licensee shall notify the appropriate NRC Regional Administrator, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any Chapter of Title 11 (Bankruptcy) of the United States Code by or against:

(i) The licensee;

(ii) An entity (as that term is defined in 11 U.S.C. 101(14)) controlling the licensee or listing the license or licensee as property of the estate; or

(iii) An affiliate (as that term is defined in 11 U.S.C. 101(2)) of the licensee.

(2) This notification must indicate:

(i) The bankruptcy court in which the petition for bankruptcy was filed; and

(ii) The date of the filing of the petition.

[47 FR 57463, Dec. 27, 1982, as amended at 52 FR 1295, Jan. 12, 1987]

§ 61.25 Changes.

(a) Except as provided for in specific license conditions, the licensee shall not make changes in the land disposal facility or procedures described in the license application. The license will include conditions restricting subsequent changes to the facility and the procedures authorized which are important to public health and safety. These license restrictions will fall into three categories of descending importance to public health and safety as follows: (1) those features and procedures which may not be changed without (i) 60 days prior notice to the Commission, (ii) 30 days notice of opportunity for a prior hearing, and (iii) prior Commission approval; (2) those features and procedures which may not be changed without (i) 60 days prior notice to the Commisson, and (ii) prior Commission approval; and (3) those features and procedures which may not be changed without 60 days prior notice to the Commission. Features and procedures falling in paragraph (a)(3) of this section may not be changed without prior Commission approval if the Commission, after having received the required notice, so orders.

(b) Amendments authorizing site closure, license transfer, or license termination shall be included in paragraph (a)(1) of this section.

(c) The Commission shall provide a copy of the notice for opportunity for hearings provided in paragraph (a)(1) of this section to State and local officials or tribal governing bodies specified in § 2.104(e) of part 2 of this chapter.

§ 61.26 Amendment of license.

(a) An application for amendment of a license must be filed in accordance with § 61.20 and shall fully describe the changes desired.

(b) In determining whether an amendment to a license will be approved, the Commission will apply the criteria set forth in § 61.23.

§ 61.27 Application for renewal or closure.

(a) Any expiration date on a license applies only to the above ground activities and to the authority to dispose of waste. Failure to renew the license shall not relieve the licensee of responsibility for carrying out site closure, postclosure observation and transfer of the license to the site owner. An application for renewal or an application for closure under § 61.28 must be filed at least 30 days prior to license expiration.

(b) Applications for renewal of a license must be filed in accordance with §§ 61.10 through 61.16 and § 61.20. Applications for closure must be filed in accordance with §§ 61.20 and 61.28. Information contained in previous applications, statements or reports filed with the Commission under the license may be incorporated by reference if the references are clear and specific.

(c) In any case in which a licensee has timely filed an application for renewal of a license, the license for continued receipt and disposal of licensed materials does not expire until the Commission has taken final action on the application for renewal.

(d) In determining whether a license will be renewed, the Commission will apply the criteria set forth in § 61.23.

§ 61.28 Contents of application for closure.

(a) Prior to final closure of the disposal site, or as otherwise directed by the Commission, the applicant shall submit an application to amend the license for closure. This closure application must include a final revision and specific details of the disposal site closure plan included as part of the license application submitted under § 61.12(g) that includes each of the following:

(1) Any additional geologic, hydrologic, or other disposal site data pertinent to the long-term containment of emplaced radioactive wastes obtained during the operational period.

(2) The results of tests, experiments, or any other analyses relating to backfill of excavated areas, closure and sealing, waste migration and interaction with emplacement media, or any other tests, experiments, or analysis pertinent to the long-term containment of emplaced waste within the disposal site.

(3) Any proposed revision of plans for:

(i) Decontamination and/or dismantlement of surface facilities;

(ii) Backfilling of excavated areas; or

(iii) Stabilization of the disposal site for post-closure care.

(b) An environmental report or a supplement to an environmental report prepared in accordance with subpart A of part 51 of this chapter must accompany the application.

(c) Upon review and consideration of an application to amend the license for closure submitted in accordance with paragraph (a) of this section, the Commission shall issue an amendment authorizing closure if there is reasonable assurance that the long-term performance objectives of subpart C of this part will be met.

[47 FR 57463, Dec. 27, 1982, as amended at 49 FR 9406, Mar. 12, 1984]

§ 61.29 Post-closure observation and maintenance.

Following completion of closure authorized in § 61.28, the licensee shall observe, monitor, and carry out necessary maintenance and repairs at the disposal site until the license is transferred by the Commission in accordance with § 61.30. Responsibility for the disposal site must be maintained by the licensee for 5 years. A shorter or longer time period for post-closure observation and maintenance may be established and approved as part of the site closure plan, based on site-specific conditions.

§ 61.30 Transfer of license.

(a) Following closure and the period of post-closure observation and maintenance, the licensee may apply for an amendment to transfer the license to the disposal site owner. The license shall be transferred when the Commission finds:

(1) That the closure of the disposal site has been made in conformance with the licensee's disposal site closure plan, as amended and approved as part of the license;

(2) That reasonable assurance has been provided by the licensee that the performance objectives of subpart C of this part are met;

(3) That any funds and necessary records for care will be transferred to the disposal site owner;

(4) That the post-closure monitoring program is operational for implementation by the disposal site owner; and

(5) That the Federal or State government agency which will assume responsibility for institutional control of the disposal site is prepared to assume responsibility and ensure that the institutional requirements found necessary under § 61.23(g) will be met.

§ 61.31 Termination of license.

(a) Following any period of institutional control needed to meet the requirements found necessary under § 61.23, the licensee may apply for an amendment to terminate the license.

(b) This application must be filed, and will be reviewed, in accordance with the provision of § 61.20 and of this section.

(c) A license is terminated only when the Commission finds:

(1) That the institutional control requirements found necessary under § 61.23(g) have been met; and

(2) That any additional requirements resulting from new information developed during the institutional control period have been met, and that permanent monuments or markers warning against intrusion have been installed.

Subpart C—Performance Objectives

§ 61.40 General requirement.

Land disposal facilities must be sited, designed, operated, closed, and controlled after closure so that reasonable assurance exists that exposures to humans are within the limits established in the performance objectives in §§ 61.41 through 61.44.

§ 61.41 Protection of the general population from releases of radioactivity.

Concentrations of radioactive material which may be released to the general environment in ground water, surface water, air, soil, plants, or animals must not result in an annual dose exceeding an equivalent of 25 millirems to the whole body, 75 millirems to the thyroid, and 25 millirems to any other organ of any member of the public. Reasonable effort should be made to maintain releases of radioactivity in effluents to the general environment as low as is reasonably achievable.

§ 61.42 Protection of individuals from inadvertent intrusion.

Design, operation, and closure of the land disposal facility must ensure protection of any individual inadvertently intruding into the disposal site and occupying the site or contacting the waste at any time after active institutional controls over the disposal site are removed.

§ 61.43 Protection of individuals during operations.

Operations at the land disposal facility must be conducted in compliance with the standards for radiation protection set out in part 20 of this chapter, except for releases of radioactivity in effluents from the land disposal facility, which shall be governed by § 61.41 of this part. Every reasonable effort shall be made to maintain radiation exposures as low as is reasonably achievable.

§ 61.44 Stability of the disposal site after closure.

The disposal facility must be sited, designed, used, operated, and closed to achieve long-term stability of the disposal site and to eliminate to the extent practicable the need for ongoing active maintenance of the disposal site following closure so that only surveillance, monitoring, or minor custodial care are required.

Subpart D—Technical Requirements for Land Disposal Facilities

§ 61.50 Disposal site suitability requirements for land disposal.

(a) Disposal site suitability for near-surface disposal.

(1) The purpose of this section is to specify the minimum characteristics a disposal site must have to be acceptable for use as a near-surface disposal facility. The primary emphasis in disposal site suitability is given to isolation of wastes, a matter having long-term impacts, and to disposal site features that ensure that the long-term performance objectives of subpart C of this part are met, as opposed to short-term convenience or benefits.

(2) The disposal site shall be capable of being characterized, modeled, analyzed and monitored.

(3) Within the region or state where the facility is to be located, a disposal site should be selected so that projected population growth and future developments are not likely to affect the ability of the disposal facility to meet the performance objectives of subpart C of this part.

(4) Areas must be avoided having known natural resources which, if exploited, would result in failure to meet the performance objectives of subpart C of this part.

(5) The disposal site must be generally well drained and free of areas of flooding or frequent ponding. Waste disposal shall not take place in a 100-year flood plain, coastal high-hazard area or wetland, as defined in Executive Order 11988, "Floodplain Management Guidelines."

(6) Upstream drainage areas must be minimized to decrease the amount of runoff which could erode or inundate waste disposal units.

(7) The disposal site must provide sufficient depth to the water table that ground water intrusion, perennial or otherwise, into the waste will not occur. The Commission will consider an exception to this requirement to allow disposal below the water table if it can be conclusively shown that disposal site characteristics will result in molecular diffusion being the predominant means of radionuclide movement and the rate of movement will result in the performance objectives of subpart C of this part being met. In no case will waste disposal be permitted in the zone of fluctuation of the water table.

(8) The hydrogeologic unit used for disposal shall not discharge ground water to the surface within the disposal site.

(9) Areas must be avoided where tectonic processes such as faulting, folding, seismic activity, or vulcanism may occur with such frequency and extent to significantly affect the ability of the disposal site to meet the performance objectives of subpart C of this part, or may preclude defensible modeling and prediction of long-term impacts.

(10) Areas must be avoided where surface geologic processes such as mass wasting, erosion, slumping, landsliding, or weathering occur with such frequency and extent to significantly affect the ability of the disposal site to meet the performance objectives of subpart C of this part, or may preclude defensible modeling and prediction of long-term impacts.

(11) The disposal site must not be located where nearby facilities or activities could adversely impact the ability of the site to meet the performance objectives of subpart C of this part or significantly mask the environmental monitoring program.

(b) Disposal site suitability requirements for land disposal other than near-surface (reserved).

§ 61.51 Disposal site design for land disposal.

(a) Disposal site design for near-surface disposal.

(1) Site design features must be directed toward long-term isolation and avoidance of the need for continuing active maintenance after site closure.

(2) The disposal site design and operation must be compatible with the disposal site closure and stabilization plan and lead to disposal site closure that provides reasonable assurance that the performance objectives of subpart C of this part will be met.

(3) The disposal site must be designed to complement and improve, where appropriate, the ability of the

disposal site's natural characteristics to assure that the performance objectives of subpart C of this part will be met.

(4) Covers must be designed to minimize to the extent practicable water infiltration, to direct percolating or surface water away from the disposed waste, and to resist degradation by surface geologic processes and biotic activity.

(5) Surface features must direct surface water drainage away from disposal units at velocities and gradients which will not result in erosion that will require ongoing active maintenance in the future.

(6) The disposal site must be designed to minimize to the extent practicable the contact of water with waste during storage, the contact of standing water with waste during disposal, and the contact of percolating or standing water with wastes after disposal.

(b) Disposal site design for other than near-surface disposal (reserved).

§ 61.52 Land disposal facility operation and disposal site closure.

(a) Near-surface disposal facility operation and disposal site closure.

(1) Wastes designated as Class A pursuant to § 61.55, must be segregated from other wastes by placing in disposal units which are sufficiently separated from disposal units for the other waste classes so that any interaction between Class A wastes and other wastes will not result in the failure to meet the performance objectives in subpart C of this Part. This segregation is not necessary for Class A wastes if they meet the stability requirements in § 61.56(b) of this part.

(2) Wastes designated as Class C pursuant to § 61.55, must be disposed of so that the top of the waste is a minimum of 5 meters below the top surface of the cover or must be disposed of with intruder barriers that are designed to protect against an inadvertent intrusion for a least 500 years.

(3) All wastes shall be disposed of in accordance with the requirements of paragraphs (a)(4) through (11) of this section.

(4) Wastes must be emplaced in a manner that maintains the package integrity during emplacement, minimizes the void spaces between packages, and permits the void spaces to be filled.

(5) Void spaces between waste packages must be filled with earth or other material to reduce future subsidence within the fill.

(6) Waste must be placed and covered in a manner that limits the radiation dose rate at the surface of the cover to levels that at a minimum will permit the licensee to comply with all provisions of § 20.105 of this chapter at the time the license is transferred pursuant to § 61.30 of this part.

(7) The boundaries and locations of each disposal unit (e.g., trenches) must be accurately located and mapped by means of a land survey. Near-surface disposal units must be marked in such a way that the boundaries of each unit can be easily defined. Three permanent survey marker control points, referenced to United States Geological Survey (USGS) or National Geodetic Survey (NGS) survey control stations must be established on the site to facilitate surveys. The USGS or NGS control stations must provide horizontal and vertical controls as checked against USGS or NGS record files.

(8) A buffer zone of land must be maintained between any buried waste and the disposal site boundary and beneath the disposed waste. The buffer zone shall be of adequate dimensions to carry out environmental monitoring activities specified in § 61.53(d) of this part and take mitigative measures if needed.

(9) Closure and stabilization measures as set forth in the approved site closure plan must be carried out as each disposal unit (e.g., each trench) is filled and covered.

(10) Active waste disposal operations must not have an adverse effect on completed closure and stabilization measures.

(11) Only wastes containing or contaminated with radioactive materials shall be disposed of at the disposal site.

(b) Facility operation and disposal site closure for land disposal facilities other than near-surface (reserved).

§ 61.53 Environmental monitoring.

(a) At the time a license application is submitted, the applicant shall have conducted a preoperational monitoring program to provide basic environmental data on the disposal site characteristics. The applicant shall obtain information about the ecology, meteorology, climate, hydrology, geology, geochemistry, and seismology of the disposal site. For those characteristics that are subject to seasonal variation, data must cover at least a twelve month period.

(b) The licensee must have plans for taking corrective measures if migration of radionuclides would indicate that the performance objectives of subpart C may not be met.

(c) During the land disposal facility site construction and operation, the licensee shall maintain a monitoring program. Measurements and observations must be made and recorded to provide data to evaluate the potential health and environmental impacts during both the construction and the operation of the facility and to enable the evaluation of long-term effects and the need for mitigative measures. The monitoring system must be capable of providing early warning of releases of radionuclides from the disposal site before they leave the site boundary.

(d) After the disposal site is closed, the licensee responsible for post-operational surveillance of the disposal site shall maintain a monitoring system based on the operating history and the closure and stabilization of the disposal site. The monitoring system must be capable of providing early warning of releases of radionuclides from the disposal site before they leave the site boundary.

§ 61.54 Alternative requirements for design and operations.

The Commission may, upon request or on its own initiative, authorize provisions other than those set forth in §§ 61.51 through 61.53 for the segregation and disposal of waste and for the design and operation of a land disposal facility on a specific basis, if it finds reasonable assurance of compliance with the performance objectives of subpart C of this part.

§ 61.55 Waste classification.

(a) Classification of waste for near surface disposal.

(1) *Considerations.* Determination of the classification of radioactive waste involves two considerations. First, consideration must be given to the concentration of long-lived radionuclides (and their shorter-lived precursors) whose potential hazard will persist long after such precautions as institutional controls, improved waste form, and deeper disposal have ceased to be effective. These precautions delay the time when long-lived radionuclides could cause exposures. In addition, the magnitude of the potential dose is limited by the concentration and availability of the radionuclide at the time of exposure. Second, consideration must be given to the concentration of shorter-lived radionuclides for which requirements on institutional controls, waste form, and disposal methods are effective.

(2) *Classes of waste.* (i) Class A waste is waste that is usually segregated from other waste classes at the disposal site. The physical form and characteristics of Class A waste must meet the minimum requirements set forth in § 61.56(a). If Class A waste also meets the stability requirements set forth in § 61.56(b), it is not necessary to segregate the waste for disposal.

(ii) Class B waste is waste that must meet more rigorous requirements on waste form to ensure stability after disposal. The physical form and characteristics of Class B waste must meet both the minimum and stability requirements set forth in § 61.56.

(iii) Class C waste is waste that not only must meet more rigorous requirements on waste form to ensure stability but also requires additional measures at the disposal facility to protect against inadvertent intrusion. The physical form and characteristics of Class C waste must meet both the minimum and stability requirements set forth in § 61.56.

(iv) Waste that is not generally acceptable for near-surface disposal is waste for which form and disposal methods must be different, and in general more stringent, than those specified for Class C waste. In the absense of specific requirements in this part, such waste must be disposed of in a geologic repository as defined in part 60 of this chapter unless proposals for disposal of such waste in a disposal site licensed pursuant to this part are approved by the Commission.

(3) Classification determined by long-lived radionuclides. If radioactive waste contains only radionuclides listed in Table 1, classification shall be determined as follows:

(i) If the concentration does not exceed 0.1 times the value in Table 1, the waste is Class A.

(ii) If the concentration exceeds 0.1 times the value in Table 1 but does not exceed the value in Table 1, the waste is Class C.

(iii) If the concentration exceeds the value in Table 1, the waste is not generally acceptable for near-surface disposal.

(iv) For wastes containing mixtures of radionuclides listed in Table 1, the total concentration shall be determined by the sum of fractions rule described in paragraph (a)(7) of this section.

TABLE 1

Radionuclide	Concentration curies per cubic meter
C-14	8
C-14 in activated metal	80
Ni-59 in activated metal	220
Nb-94 in activated metal	0.2
Tc-99	3
I-129	0.08
Alpha emitting transuranic nuclides with half-life greater than five years	[1] 100
Pu-241	[1] 3,500
Cm-242	[1] 20,000

[1] Units are nanocuries per gram.

(4) Classification determined by short-lived radionuclides. If radioactive waste does not contain any of the radionuclides listed in Table 1, classification shall be determined based on the concentrations shown in Table 2. However, as specified in paragraph (a)(6) of this section, if radioactive waste does not contain any nuclides listed in either Table 1 or 2, it is Class A.

(i) If the concentration does not exceed the value in Column 1, the waste is Class A.

(ii) If the concentration exceeds the value in Column 1, but does not exceed the value in Column 2, the waste is Class B.

(iii) If the concentration exceeds the value in Column 2, but does not exceed the value in Column 3, the waste is Class C.

(iv) If the concentration exceeds the value in Column 3, the waste is not generally acceptable for near-surface disposal.

(v) For wastes containing mixtures of the nuclides listed in Table 2, the total concentration shall be determined by the sum of fractions rule described in paragraph (a)(7) of this section.

TABLE 2

Radionuclide	Concentration, curies per cubic meter		
	Col. 1	Col. 2	Col 3
Total of all nuclides with less than 5 year half life	700	([1])	(
H-3	40	([1])	(
Co-60	700	([1])	(
Ni-63	3.5	70	70
Ni-63 in activated metal	35	700	70
Sr-90	0.04	150	70
Cs-137	1	44	46

[1] There are no limits established for these radionuclides in Class B or C wastes. Practical considerations such as the effects of external radiation and internal heat generation on transportation, handling, and disposal will limit the concentrations for these wastes. These wastes shall be Class B unless the concentrations of other nuclides in Table 2 determine the waste to the Class C independent of these nuclides.

(5) Classification determined by both long- and short-lived radionuclides. If radioactive waste contains a mixture of radionuclides, some of which are listed in Table 1, and some of which are listed in Table 2, classification shall be determined as follows:

(i) If the concentration of a nuclide listed in Table 1 does not exceed 0.1 times the value listed in Table 1, the class shall be that determined by the concentration of nuclides listed in Table 2.

(ii) If the concentration of a nuclide listed in Table 1 exceeds 0.1 times the value listed in Table 1 but does not exceed the value in Table 1, the waste shall be Class C, provided the concentration of nuclides listed in Table 2 does not exceed the value shown in Column 3 of Table 2.

(6) Classification of wastes with radionuclides other than those listed in Tables 1 and 2. If radioactive waste does not contain any nuclides listed in either Table 1 or 2, it is Class A.

(7) The sum of the fractions rule for mixtures of radionuclides. For determining classification for waste that contains a mixture of radionuclides, it is necessary to determine the sum of fractions by dividing each nuclide's concentration by the appropriate limit and adding the resulting values. The appropriate limits must all be taken from the same column of the same table. The sum of the fractions for the column must be less than 1.0 if the waste class is to be determined by that column. Example: A waste contains Sr-90 in a concentration of 50 Ci/m^3 and Cs-137 in a concentration of 22 Ci/m^3 Since the concentrations both exceed the values in Column 1, Table 2, they must be compared to Column 2 values. For Sr-90 fraction 50/150=0.33; for Cs-137 fraction, 22/44=0.5; the sum of the fractions=0.83. Since the sum is less than 1.0, the waste is Class B.

(8) *Determination of concentrations in wastes.* The concentration of a radionuclide may be determined by indirect methods such as use of scaling factors which relate the inferred concentration of one radionuclide to another that is measured, or radionuclide material accountability, if there is reasonable assurance that the indirect methods can be correlated with actual measurements. The concentration of a radionuclide may be averaged over the volume of the waste, or weight of the waste if the units are expressed as nanocuries per gram.

[47 FR 57463, Dec. 27, 1982, as amended at 54 FR 22583, May 25, 1989]

§ 61.56 Waste characteristics.

(a) The following requirements are minimum requirements for all classes of waste and are intended to facilitate handling at the disposal site and provide protection of health and safety of personnel at the disposal site.

(1) Waste must not be packaged for disposal in cardboard or fiberboard boxes.

(2) Liquid waste must be solidified or packaged in sufficient absorbent material to absorb twice the volume of the liquid.

(3) Solid waste containing liquid shall contain as little free standing and noncorrosive liquid as is reasonably achievable, but in no case shall the liquid exceed 1% of the volume.

(4) Waste must not be readily capable of detonation or of explosive decomposition or reaction at normal pressures and temperatures, or of explosive reaction with water.

(5) Waste must not contain, or be capable of generating, quantities of toxic gases, vapors, or fumes harmful to persons transporting, handling, or disposing of the waste. This does not apply to radioactive gaseous waste packaged in accordance with paragraph (a)(7) of this section.

(6) Waste must not be pyrophoric. Pyrophoric materials contained in waste shall be treated, prepared, and packaged to be nonflammable.

(7) Waste in a gaseous form must be packaged at a pressure that does not exceed 1.5 atmospheres at 20°C. Total activity must not exceed 100 curies per container.

(8) Waste containing hazardous, biological, pathogenic, or infectious material must be treated to reduce to the maximum extent practicable the potential hazard from the non-radiological materials.

(b) The requirements in this section are intended to provide stability of the waste. Stability is intended to ensure that the waste does not structurally degrade and affect overall stability of the site through slumping, collapse, or other failure of the disposal unit and thereby lead to water infiltration. Stability is also a factor in limiting exposure to an inadvertent intruder, since it provides a recognizable and nondispersible waste.

(1) Waste must have structural stability. A structurally stable waste form will generally maintain its physical dimensions and its form, under the expected disposal conditions such as weight of overburden and compaction equipment, the presence of moisture,

and microbial activity, and internal factors such as radiation effects and chemical changes. Structural stability can be provided by the waste form itself, processing the waste to a stable form, or placing the waste in a disposal container or structure that provides stability after disposal.

(2) Notwithstanding the provisions in § 61.56(a) (2) and (3), liquid wastes, or wastes containing liquid, must be converted into a form that contains as little free standing and noncorrosive liquid as is reasonably achievable, but in no case shall the liquid exceed 1% of the volume of the waste when the waste is in a disposal container designed to ensure stability, or 0.5% of the volume of the waste for waste processed to a stable form.

(3) Void spaces within the waste and between the waste and its package must be reduced to the extent practicable.

§ 61.57 Labeling.

Each package of waste must be clearly labeled to identify whether it is Class A waste, Class B waste, or class C waste, in accordance with § 61.55.

§ 61.58 Alternative requirements for waste classification and characteristics.

The Commission may, upon request or on its own initiative, authorize other provisions for the classification and characteristics of waste on a specific basis, if, after evaluation, of the specific characteristics of the waste, disposal site, and method of disposal, it finds reasonable assurance of compliance with the performance objectives in subpart C of this part.

§ 61.59 Institutional requirements.

(a) *Land ownership.* Disposal of radioactive waste received from other persons may be permitted only on land owned in fee by the Federal or a State government.

(b) *Institutional control.* The land owner or custodial agency shall carry out an institutional control program to physically control access to the disposal site following transfer of control of the disposal site from the disposal site operator. The institutional control program must also include, but not be limited to, carrying out an environmental monitoring program at the disposal site, periodic surveillance, minor custodial care, and other requirements as determined by the Commission; and administration of funds to cover the costs for these activities. The period of institutional controls will be determined by the Commission, but institutional controls may not be relied upon for more than 100 years following transfer of control of the disposal site to the owner.

Subpart E—Financial Assurances

§ 61.61 Applicant qualifications and assurances.

Each applicant shall show that it either possesses the necessary funds or has reasonable assurance of obtaining the necessary funds, or by a combination of the two, to cover the estimated costs of conducting all licensed activities over the planned operating life of the project, including costs of construction and disposal.

§ 61.62 Funding for disposal site closure and stabilization.

(a) The applicant shall provide assurance that sufficient funds will be available to carry out disposal site closure and stabilization, including: (1) Decontamination or dismantlement of land disposal facility structures; and (2) closure and stabilization of the disposal site so that following transfer of the disposal site to the site owner, the need for ongoing active maintenance is eliminated to the extent practicable and only minor custodial care, surveillance, and monitoring are required. These assurances shall be based on Commission-approved cost estimates reflecting the Commission-approved plan for disposal site closure and stabilization. The applicant's cost estimates must take into account total capital costs that would be incurred if an independent contractor were hired to perform the closure and stabilization work.

(b) In order to avoid unnecessary duplication and expense, the Commission will accept financial sureties that have been consolidated with earmarked financial or surety arrangements established to meet requirements of other

Federal or State agencies and/or local governing bodies for such decontamination, closure and stabilization. The Commission will accept this arrangement only if they are considered adequate to satisfy these requirements and that the portion of the surety which covers the closure of the disposal site is clearly identified and committed for use in accomplishing these activities.

(c) The licensee's surety mechanism will be annually reviewed by the Commission to assure that sufficient funds are available for completion of the closure plan, assuming that the work has to be performed by an independent contractor.

(d) The amount of surety liability should change in accordance with the predicted cost of future closure and stabilization. Factors affecting closure and stabilization cost estimates include: inflation; increases in the amount of disturbed land; changes in engineering plans; closure and stabilization that has already been accomplished and any other conditions affecting costs. This will yield a surety that is at least sufficient at all times to cover the costs of closure of the disposal units that are expected to be used before the next license renewal.

(e) The term of the surety mechanism must be open ended unless it can be demonstrated that another arrangement would provide an equivalent level of assurance. This assurance could be provided with a surety mechanism which is written for a specified period of time (e.g., five years) yet which must be automatically renewed unless the party who issues the surety notifies the Commission and the beneficiary (the site owner) and the principal (the licensee) not less than 90 days prior to the renewal date of its intention not to renew. In such a situation the licensee must submit a replacement surety within 30 days after notification of cancellation. If the licensee fails to provide a replacement surety acceptable to the Commission, the site owner may collect on the original surety.

(f) Proof of forfeiture must not be necessary to collect the surety so that in the event that the licensee could not provide an acceptable replacement surety within the required time, the surety shall be automatically collected prior to its expiration. The conditions described above would have to be clearly stated on any surety instrument which is not open-ended, and must be agreed to by all parties. Liability under the surety mechanism must remain in effect until the closure and stabilization program has been completed and approved by the Commission and the license has been transferred to the site owner.

(g) Financial surety arrangements generally acceptable to the Commission include: surety bonds, cash deposits, certificates of deposits, deposits of government securities, escrow accounts, irrevocable letters or lines of credit, trust funds, and combinations of the above or such other types of arrangements as may be approved by the Commission. However, self-insurance, or any arrangement which essentially constitutes pledging the assets of the licensee, will not satisfy the surety requirement for private sector applicants since this provides no additional assurance other than that which already exists through license requirements.

§ 61.63 Financial assurances for institutional controls.

(a) Prior to the issuance of the license, the applicant shall provide for Commission review and approval a copy of a binding arrangement, such as a lease, between the applicant and the disposal site owner that ensures that sufficient funds will be available to cover the costs of monitoring and any required maintenance during the institutional control period. The binding arrangement will be reviewed periodically by the Commission to ensure that changes in inflation, technology and disposal facility operations are reflected in the arrangements.

(b) Subsequent changes to the binding arrangement specified in paragraph (a) of this section relevant to institutional control shall be submitted to the Commission for approval.

Subpart F—Participation by State Governments and Indian Tribes

§ 61.70 Scope.

This subpart describes mechanisms through which the Commission will implement a formal request from a State or tribal government to participate in the review of a license application for a land disposal facility. Nothing in this subpart may be construed to bar the State or tribal governing body from participating in subsequent Commission proceedings concerning the license application as provided under Federal law and regulations.

§ 61.71 State and Tribal government consultation.

Upon request of a State or tribal governing body, the Director shall make available Commission staff to discuss with representatives of the State or tribal governing body information submitted by the applicant, applicable Commission regulations, licensing procedures, potential schedules, and the type and scope of State activities in the license review permitted by law. In addition, staff shall be made available to consult and cooperate with the State or tribal governing body in developing proposals for participation in the license review.

§ 61.72 Filing of proposals for State and Tribal participation.

(a) A State or tribal governing body whose interest is affected by a near-surface disposal facility at the proposed site may submit to the Director a proposal for participation in the review of a license application. Proposals must be submitted within the following time periods:

(1) For the State in which the disposal facility will be located, or any State that is member of an interstate compact that includes the State in which the disposal facility is located, no later than 45 days following publication in the FEDERAL REGISTER of the notice of tendering of an application submitted under § 61.20.

(2) For any other State, or for a tribal governing body, no later than 120 days following publication in the FEDERAL REGISTER of the notice of tendering of an application submitted under § 61.20.

(b) Proposals for participation in the licensing process must be made in writing and must be signed by the Governor of the State or the official otherwise provided for by State or tribal law.

(c) At a minimum, proposals must contain each of the following items of information:

(1) A general description of how the State or tribe wishes to participate in the licensing process specifically identifying those issues it wishes to review.

(2) A description of material and information which the State or tribe plans to submit to the Commission for consideration in the licensing process. A tentative schedule referencing steps in the review and calendar dates for planned submittals should be included.

(3) A description of any work that the State or tribe proposes to perform for the Commission in support of the licensing process.

(4) A description of State or tribal plans to facilitate local government and citizen participation.

(5) A preliminary estimate of the types and extent of impacts which the State expects, should a disposal facility be located as proposed.

(6) If desired, any requests for educational or information services (seminars, public meetings) or other actions from the Commission such as establishment of additional Public Document Rooms or exchange of State personnel under the Intergovernmental Personnel Act.

§ 61.73 Commission approval of proposals.

(a) Upon receipt of a proposal submitted in accordance with § 61.72, the Director shall arrange for a meeting between the representatives of the State or tribal governing body and the Commission staff to discuss the proposal and to ensure full and effective participation by the State or tribe in the Commission's license review.

(b) If requested by a State or tribal governing body, the Director may approve all or any part of a proposal if the Director determines that:

(1) The proposed activities are within the scope of Commission statutory responsibility and the type and magnitude of impacts which the State or tribe may bear are sufficient to justify their participation; and

(2) The proposed activities will contribute productively to the licensing review.

(c) The decision of the Director will be transmitted in writing to the governor or the designated official of the tribal governing body.

(d) Participation by a State or Indian tribe shall not affect their rights to participate in an adjudicatory hearing as provided by part 2 of this chapter.

Subpart G—Records, Reports, Tests, and Inspections

§ 61.80 Maintenance of records, reports, and transfers.

(a) Each licensee shall maintain any records and make any reports in connection with the licensed activities as may be required by the conditions of the license or by the rules, regulations, and orders of the Commission.

(b) Records which are required by the regulations in this part or by license conditions must be maintained for a period specified by the appropriate regulations in this chapter or by license condition. If a retention period is not otherwise specified, these records must be maintained and transferred to the officials specified in paragraph (e) of this section as a condition of license termination unless the Commission otherwise authorizes their disposition.

(c) Records which must be maintained pursuant to this part may be the original or a reproduced copy or a microform if this reproduced copy or microform is capable of producing copy that is clear and legible at the end of the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

(d) If there is a conflict between the Commission's regulations in this part, license condition, or other written Commission approval or authorization pertaining to the retention period for the same type of record, the longest retention period specified takes precedence.

(e) Notwithstanding paragraphs (a) through (d) of this section, the licensee shall record the location and the quantity of radioactive wastes contained in the disposal site and transfer these records upon license termination to the chief executive of the nearest municipality, the chief executive of the county in which the facility is located, the county zoning board or land development and planning agency, the State governor and other State, local, and Federal governmental agencies as designated by the Commission at the time of license termination.

(f) Following receipt and acceptance of a shipment of radioactive waste, the licensee shall record the date of disposal of the waste, the location in the disposal site, the condition of the waste packages as received, any discrepancies between materials listed on the manifest and those received, and any evidence of leaking or damaged packages or radiation or contamination levels in excess of limits specified in Department of Transportation and Commission regulations. The licensee shall briefly describe any repackaging operations of any of the waste packages included in the shipment, plus any other information required by the Commission as a license condition. The licensee shall retain these records until the Commission transfers or terminates the license that authorizes the activities described in this section.

(g) Each licensee shall comply with the safeguards reporting requirements of §§ 30.55, 40.64, 70.53 and 70.54 of this chapter if the quantities or activities of materials received or transferred exceed the limits of these sections. Inventory reports required by these sections are not required for materials after disposal.

(h) Each licensee authorized to dispose of radioactive waste received from other persons shall file a copy of its financial report or a certified financial statement annually with the Commission in order to update the information base for determining financial qualifications.

(i)(1) Each licensee authorized to dispose of waste materials received from other persons, pursuant to this part, shall submit annual reports to the appropriate Commission regional office shown in appendix D of part 20 of this chapter, with copies to the Director, Division of High-Level Waste Management, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC, 20555. Reports shall be submitted by the end of the first calendar quarter of each year for the preceding year;

(2) The reports shall include (i) specification of the quantity of each of the principal radionuclides released to unrestricted areas in liquid and in airborne effluents during the preceding year, (ii) the results of the environmental monitoring program, (iii) a summary of licensee disposal unit survey and maintenance activities, (iv) a summary, by waste class, of activities and quantities of radionuclides disposed of, (v) any instances in which observed site characteristics were significantly different from those described in the application for a license; and (vi) any other information the Commission may require. If the quantities of radioactive materials released during the reporting period, monitoring results, or maintenance performed are significantlly different from those expected in the materials previously reviewed as part of the licensing action, the report must cover this specifically.

(j) Each licensee shall report in accordance with the requirements of § 70.52 of this chapter.

(k) Any transfer of byproduct, source, and special nuclear materials by the licensee is subject to the requirements in §§ 30.41, 40.51, and 70.42 of this chapter. Byproduct, source and special nuclear material means materials as defined in these parts, respectively.

[47 FR 57463, Dec. 27, 1982, as amended at 52 FR 31612, Aug. 21, 1987; 53 FR 19251, May 27, 1988]

§ 61.81 Tests at land disposal facilities.

(a) Each licensee shall perform, or permit the Commission to perform, any tests as the Commission deems appropriate or necessary for the administration of the regulations in this part, including tests of:

(1) Radioactive wastes and facilities used for the receipt, storage, treatment, handling and disposal of radioactive wastes.

(2) Radiation detection and monitoring instruments; and

(3) Other equipment and devices used in connection with the receipt, possession, handling, treatment, storage, or disposal of radioactive waste.

§ 61.82 Commission inspections of land disposal facilities.

(a) Each licensee shall afford to the Commission at all reasonable times opportunity to inspect radioactive waste not yet disposed of, and the premises, equipment, operations, and facilities in which radioactive wastes are received, possessed, handled, treated, stored, or disposed of.

(b) Each licensee shall make available to the Commission for inspection, upon reasonable notice, records kept by it pursuant to the regulations in this chapter. Authorized representatives of the Commission may copy and take away copies of, for the Commission's use, any record required to be kept pursuant to this part.

§ 61.83 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule.

PART 62—CRITERIA AND PROCEDURES FOR EMERGENCY ACCESS TO NON-FEDERAL AND REGIONAL LOW-LEVEL WASTE DISPOSAL FACILITIES

Subpart A—General Provisions

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62.25 Criteria for a Commission determination.
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Subpart D—Termination of Emergency Access

62.31 Termination of emergency access.

AUTHORITY: Secs. 81, 161, as amended, 68 Stat. 935, 948, 949, 950, 951, as amended. (42 U.S.C. 2111, 2201); secs. 201, 209, as amended, 88 Stat. 1242, 1248, as amended (42 U.S.C. 5841, 5849); secs. 3, 4, 5, 6, 99 Stat. 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857. (42 U.S.C. 2021c, 2021d, 2021e, 2021f).

SOURCE: 54 FR 5420, Feb. 3, 1989, unless other noted.

Subpart A—General Provisions

§ 62.1 Purpose and scope.

(a) The regulations in this part establish for specific low-level radioactive waste:

(1) Criteria and procedures for granting emergency access under section 6 of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (42 U.S.C. 2021) to any non-Federal or regional low-level radioactive waste (LLW) disposal facility or to any non-Federal disposal facility within a State that is not a member of a Compact, and

(2) The terms and conditions upon which the Commission will grant this emergency access.

(b) The regulations in this part apply to all persons as defined by this regulation, who have been denied access to existing regional or non-Federal low-level radioactive waste disposal facilities and who submit a request to the Commission for a determination pursuant to this part.

(c) The regulations in this part apply only to the LLW that the States have the responsibility to dispose of pursuant to section 3(1)(a) of the Act.

§ 62.2 Definitions.

As used in this part:

Act means the Low-Level Radioactive Waste Policy Amendments Act of 1985 (Pub. L. 99-240).

Agreement State means a State that—

(1) Has entered into an agreement with the Nuclear Regulatory Commission under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021); and

(2) Has authority to regulate the disposal of low-level radioactive waste under such agreement.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Compact means a Compact entered into by two or more States pursuant to the Low-Level Radioactive Waste Policy Amendments Act of 1985.

Compact Commission means the regional commission, committee, or board established in a Compact to administer such Compact.

Disposal means the permanent isolation of low-level radioactive waste pursuant to the requirements established by the Nuclear Regulatory Commission under applicable laws, or by an Agreement State if such isolation occurs in this Agreement State.

Emergency access means access to an operating non-Federal or regional low-level radioactive waste disposal facility or facilities for a period not to exceed 180 days, which is granted by NRC to a generator of low-level radioactive waste who has been denied the use of those facilities.

Extension of emergency access means an extension of the access that had been previously granted by NRC to an operating non-Federal or regional low-level radioactive waste disposal facility or facilities for a period not to exceed 180 days.

Low-level radioactive waste (LLW) means radioactive material that—

(1) Is not high-level radioactive waste, spent nuclear fuel, or byproduct material (as defined in section IIe(2) of the Atomic Energy Act of 1954, (42 U.S.C. 2014(e)(2))); and (2) the NRC, consistent with existing law and in accordance with paragraph (a), classifies as low-level radioactive waste.

Non-Federal disposal facility means a low-level radioactive waste disposal facility that is commercially operated or is operated by a State.

Person means any individual, corporation, partnership, firm, association, trust, State, public or private institution, group or agency who is an NRC or NRC Agreement State licensed generator of low-level radioactive waste within the scope of § 62.1(c) of this part; any Governor (or for any *State* without a Governor, the chief executive officer of the *State*) on behalf of any NRC or NRC Agreement State licensed generator or generators of low-level radioactive waste within the scope of § 62.1(c) of this part located in his or her *State*; or their duly authorized representative, legal successor, or agent.

Regional disposal facility means a non-Federal low-level radioactive waste disposal facility in operation on January 1, 1985, or subsequently established and operated under a compact.

State means any State of the United States, the District of Columbia, and the Commonwealth of Puerto Rico.

Temporary emergency access means access that is granted at NRC's discretion under § 62.23 of this part upon determining that access is necessary to eliminate an immediate and serious threat to the public health and safety or the common defense and security. Such access expires 45 days after the granting and cannot be extended.

§ 62.3 Communications.

Except where otherwise specified each communication and report concerning the regulations in this part should be addressed to the Director, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or may be delivered in person to the Commission's offices at 2120 L Street NW., Washington, DC, or 11555 Rockville Pike, Rockville, MD.

§ 62.4 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be considered binding on the Commission.

§ 62.5 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant an exemption from the requirements of the regulations in this part that it determines is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest.

§ 62.8 Information collection requirements: OMB Approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0143.

(b) The approved information collection requirements contained in this part appear in §§ 62.11, 62.12, 62.13, 62.14, and 62.15.

Subpart B—Request for a Commission Determination

§ 62.11 Filing and distribution of a determination request.

(a) The person submitting a request for a Commission determination shall file a signed original and nine copies of the request with the Commission at the address specified in § 62.3 of this part, with a copy also provided to the appropriate Regional Administrator at the address specified in appendix D to part 20 of this chapter. The request must be signed by the person requesting the determination or the person's authorized representative under oath or affirmation.

(b) Upon receipt of a request for a determination, the Secretary of the Commission will cause to be published in the FEDERAL REGISTER a notice acknowledging receipt of the request which will require that public comment on the request be submitted within 10 days of the date of the notice. A copy of the request will be made available for inspection or copying in the Commission's Public Document Room, Washington, DC. The Secretary of the Commission will also transmit a copy of the request to the U.S. Department of Energy, to the Governors of the States of the Compact region where the waste is generated, to the Governors of the States with operating non-Federal low-level radioactive waste disposal facilities, to the Compact Commissions with operating regional low-level radioactive waste disposal facilities, and to the Governors of the States in the Compact Commissions with operating disposal facilities.

(c) Upon receipt of a request for a determination based on a serious and immediate threat to the common defense and security, the Commission will notify DOD and/or DOE and provide a copy of the request as needed for their consideration.

(d) Fees applicable to a request for a Commission determination under this part will be determined in accordance with the procedures set forth for special projects under category 12 of § 170.31 of this chapter.

(e) In the event that the allocations or limitations established in section 5(b) or 6(h) of the Act are met at all operating non-Federal or regional LLW disposal facilities, the Commission may suspend the processing or acceptance of requests for emergency access determinations until additional LLW disposal capacity is authorized by Congress.

§ 62.12 Contents of a request for emergency access: General information.

A request for a Commission determination under this part must include the following information for each generator to which the request applies:

(a) Name and address of the person making the request;

(b) Name and address of the person(s) or company(ies) generating the low-level radioactive waste for which the determination is sought;

(c) A statement indicating whether the generator is basing the request on the grounds of a serious and immediate threat to the public health and safety or the common defense and security;

(d) Certification that the radioactive waste for which emergency access is requested is low-level radioactive waste within § 62.1(c) of this part;

(e) The low-level waste generation facility(ies) producing the waste for which the request is being made;

(f) A description of the activity that generated the waste;

(g) Name of the disposal facility or facilities which had been receiving the waste stream of concern before the generator was denied access;

(h) A description of the low-level radioactive waste for which emergency access is requested, including—

(1) The characteristics and composition of the waste, including, but not limited to—

(i) Type of waste (e.g. solidified oil, scintillation fluid, failed equipment);

(ii) Principal chemical composition;

(iii) Physical state (solid, liquid, gas);

(iv) Type of solidification media; and

(v) Concentrations and percentages of any hazardous or toxic chemicals, chelating agents, or infectious or biological agents associated with the waste;

(2) The radiological characteristics of the waste such as—

(i) The classification of the waste in accordance with 61.55;

(ii) A list of the radionuclides present or potentially present in the waste, their concentration or contamination levels, and total quantity;

(iii) Distribution of the radionuclides within the waste (surface or volume distribution);

(iv) Amount of transuranics (nanocuries/gram);

(3) The minimum volume of the waste requiring emergency access to eliminate the threat to the public health and safety or the common defense and security;

(4) The time duration for which emergency access is requested (not to exceed 180 days);

(5) Type of disposal container or packaging (55 gallon drum, box, liner, etc.); and

(6) Description of the volume reduction and waste minimization techniques applied to the waste which assure that it is reduced to the maximum extent practicable, and the actual reduction in volume that occurred;

(i) Basis for requesting the determination set out in this part, including—

(1) The circumstances that led to the denial of access to existing low-level radioactive waste disposal facilities;

(2) A description of the situation that is responsible for creating the serious and immediate threat to the public health and safety or the common defense and security, including the date when the need for emergency access was identified;

(3) A chronology and description of the actions taken by the person requesting emergency access to prevent the need for making such a request, including consideration of all alternatives set forth in § 62.13 of this part, and any supporting documentation as appropriate;

(4) An explanation of the impacts of the waste on the public health and safety or the common defense and security if emergency access is not granted, and the basis for concluding that these impacts constitute a serious and immediate threat to the public health and safety or the common defense and security. The impacts to the public health and safety or the common defense and security should also be addressed if the generator's services, including research activities, were to be curtailed, either for a limited period of time or indefinitely;

(5) Other consequences if emergency access is not granted;

(j) Steps taken by the person requesting emergency access to correct the situation requiring emergency access and the person's plans to eliminate the need for additional or future emergency access requests;

(k) Documentation certifying that access has been denied;

(l) Documentation that the waste for which emergency access is requested could not otherwise qualify for disposal pursuant to the Unusual Volumes provision (Section 5(c)(5) of the Act) or is not simultaneously under consideration by the Department of Energy (DOE) for access through the Unusual Volumes allocation;

(m) Date by which access is required;

(n) Any other information which the Commission should consider in making its determination.

§ 62.13 Contents of a request for emergency access: Alternatives.

(a) A request for emergency access under this part must include information on alternatives to emergency access. The request shall include a discussion of the consideration given to any alternatives, including, but not limited to, the following:

(1) Storage of low-level radioactive waste at the site of generation;

(2) Storage of low-level radioactive waste in a licensed storage facility;

(3) Obtaining access to a disposal facility by voluntary agreement;

(4) Purchasing disposal capacity available for assignment pursuant to the Act;

(5) Requesting disposal at a Federal ow-level radioactive waste disposal facility in the case of a Federal or defense related generator of LLW;

(6) Reducing the volume of the waste;

(7) Ceasing activities that generate low-level radioactive waste; and

(8) Other alternatives identified under paragraph (b) of this section.

(b) The request must identify all of the alternatives to emergency access considered, including any that would require State or Compact action, or any others that are not specified in paragraph (a) of this section. The request should also include a description of the process used to identify the alternatives, a description of the factors that were considered in identifying and evaluating them, a chronology of actions taken to identify and implement alternatives during the process, and a discussion of any actions that were considered, but not implemented.

(c) The evaluation of each alternative must consider:

(1) Its potential for mitigating the serious and immediate threat to public health and safety or the common defense and security posed by lack of access to disposal;

(2) The adverse effects on public health and safety and the common defense and security, if any, of implementing each alternative, including the curtailment or cessation of any essential services affecting the public health and safety or the common defense and security;

(3) The technical and economic feasibility of each alternative including the person's financial capability to implement the alternatives;

(4) Any other pertinent societal costs and benefits;

(5) Impacts to the environment;

(6) Any legal impediments to implementation of each alternative, including whether the alternatives will comply with applicable NRC and NRC Agreement States regulatory requirements; and

(7) The time required to develop and implement each alternative.

(d) The request must include the basis for:

(1) Rejecting each alternative; and

(2) Concluding that no alternative is available.

§ 62.14 Contents of a request for an extension of emergency access.

A request for an extension of emergency access must include:

(a) Updates of the information required in §§ 62.12 and 62.13; and

(b) Documentation that the generator of the low-level radioactive waste granted emergency access and the State in which the low-level radioactive waste was generated have diligently, though unsuccessfully, acted during the period of the initial grant to eliminate the need for emergency access. Documentation must include:

(1) An identification of additional alternatives that have been evaluated during the period of the initial grant, and

(2) A discussion of any reevaluation of previously considered alternatives, including verification of continued attempts to gain access to a disposal facility by voluntary agreement.

§ 62.15 Additional information.

(a) The Commission may require additional information from a person making a request for a Commission determination under this part concerning any portion of the request.

(b) The Commission shall deny a request for a Commission determination under this part if the person making the request fails to respond to a request for additional information under paragraph (a) of this section within ten (10) days from the date of the request for additional information, or any other time that the Commission may specify. This denial will not prejudice the right of the person making the request to file another request for a Commission determination under this part.

§ 62.16 Withdrawal of a determination request.

(a) A person may withdraw a request for a Commission determination under this part without prejudice at any time prior to the issuance of an initial determination under § 62.21 of this part.

(b) The Secretary of the Commission will cause to be published in the Federal Register a notice of the withdrawal of a request for a Commission determination under this part.

§ 62.17 Elimination of repetition.

In any request under this part, the person making the request may incorporate by reference information contained in a previous application, Statement, or report filed with the Commission provided that these references are updated, clear, and specific.

§ 62.18 Denial of request.

If a request for a determination is based on circumstances that are too remote and speculative to allow an informed determination, the Commission may deny the request.

Subpart C—Issuance of a Commission Determination

§ 62.21 Determination for granting emergency access.

(a) Not later than (45) days after the receipt of a request for a Commission determination under this part from any generator of low-level radioactive waste, or any Governor on behalf of any generator or generators located in his or her State, the Commission shall determine whether—

(1) Emergency access to a regional disposal facility or a non-Federal disposal facility within a State that is not a member of a Compact for specific low-level radioactive waste is necessary because of an immediate and serious threat—

(i) To the public health and safety or

(ii) The common defense and security; and

(2) The threat cannot be mitigated by any alternative consistent with the public health and safety, including those identified in § 62.13.

(b) In making a determination under this section, the Commission shall be guided by the criteria set forth in § 62.25 of this part.

(c) A determination under this section must be in writing and contain a full explanation of the facts upon which the determination is based and the reasons for granting or denying the request. An affirmative determination must designate an appropriate non-Federal or regional LLW disposal facility or facilities for the disposal of wastes, specifically describe the low-level radioactive waste as to source, physical and radiological characteristics, and the minimum volume and duration (not to exceed 180 days) necessary to eliminate the immediate threat to public health and safety or the common defense and security. It may also contain conditions upon which the determination is dependent.

§ 62.22 Notice of issuance of a determination.

(a) Upon the issuance of a Commission determination the Secretary of the Commission will notify in writing the following persons of the final determination: The person making the request, the Governor of the State in which the low-level radioactive waste requiring emergency access was generated, the Governor of the State in which the designated disposal facility is located, and if pertinent, the appropriate Compact Commission for such approval as is specified as necessary in section 6(g) of the Act. For the Governor of the State in which the designated disposal facility is located and for the appropriate Compact Commission, the notification must set forth the reasons that emergency access was granted and specifically describe the low-level radioactive waste as to source, physical and radiological characteristics, and the minimum volume and duration (not to exceed 180 days) necessary to alleviate the immediate and serious threat to public health and safety or the common defense and security. For the Governor of the State in which the low-level waste was generated, the notification must indicate that no extension of emergency access will be granted under § 62.24 of this part absent diligent State and generator action during the period of the initial grant.

(b) The Secretary of the Commission will cause to be published in the Federal Register a notice of the issuance of the determination.

(c) The Secretary of the Commission will make a copy of the final determination available for inspection in the Commission's Public Document Room, 2120 L Street NW., Washington, DC.

§ 62.23 Determination for granting temporary emergency access.

(a) The Commission may grant temporary emergency access to an appropriate non-Federal or regional disposal facility or facilities provided that the determination required under § 62.21(a)(1) of this part is made;

(b) The notification procedures under § 62.22 of this part are complied with; and

(c) The temporary emergency access duration will not exceed forty-five (45) days.

§ 62.24 Extension of emergency access.

(a) After the receipt of a request from any generator of low-level waste, or any Governor on behalf of any generator or generators in his or her State, for an extension of emergency access that was initially granted under § 62.21, the Commission shall make an initial determination of whether—

(1) Emergency access continues to be necessary because of an immediate and serious threat to the public health and safety or the common defense and security;

(2) The threat cannot be mitigated by any alternative that is consistent with public health and safety; and

(3) The generator of low-level waste and the State have diligently though unsuccessfully acted during the period of the initial grant to eliminate the need for emergency access.

(b) After making a determination pursuant to paragraph (a) of this section, the requirements specified in §§ 62.21(c) and 62.22 of this part, must be followed.

§ 62.25 Criteria for a Commission determination.

(a) In making the determination required by § 62.21(a) of this part, the Commission will determine whether the circumstances described in the request for emergency access create a serious and immediate threat to the public health and safety or the common defense and security.

(b) In making the determination that a serious and immediate threat exists to the public health and safety, the Commission will consider, notwithstanding the availability of any alternative identified in § 62.13 of this part:

(1) The nature and extent of the radiation hazard that would result from the denial of emergency access, including consideration of—

(i) The standards for radiation protection contained in part 20 of this chapter;

(ii) Any standards governing the release of radioactive materials to the general environment that are applicable to the facility that generated the low level waste; and

(iii) Any other Commission requirements specifically applicable to the facility or activity that is the subject of the emergency access request; and

(2) The extent to which essential services affecting the public health and safety (such as medical, therapeutic, diagnostic, or research activities) will be disrupted by the denial of emergency access.

(c) For purposes of granting temporary emergency access under § 62.23 of this part, the Commission will consider the criteria contained in the Commission's Policy Statement (45 FR 10950, February 24, 1977) for determining whether an event at a facility or activity licensed or otherwise regulated by the Commission is an abnormal occurrence within the purview of section 208 of the Energy Reorganization Act of 1974.

(d) In making the determination that a serious and immediate threat to the common defense and security exists, the Commission will consider, notwithstanding the availability of any alternative identified in § 62.13 of this part:

(1) Whether the activity generating the wastes is necessary to the protection of the common defense and security, and

(2) Whether the lack of access to a disposal site would result in a significant disruption in that activity that would seriously threaten the common defense and security.

The Commission will consider the views of the Department of Defense (DOD) and or the Department of Energy (DOE) regarding the importance of the activities responsible for generating the LLW to the common defense and security, when evaluating requests based all, or in part, on a serious and immediate threat to the common defense and security.

(e) In making the determination required by § 62.21(a)(2) of this part, the Commission will consider whether the person submitting the request—

(1) Has identified and evaluated any alternative that could mitigate the need for emergency access; and

(2) Has considered all pertinent factors in its evaluation of alternatives including state-of-the-art technology and impacts on public health and safety.

(f) In making the determination required by § 62.21(a)(2) of this part, the Commission will consider implementation of an alternative to be unreasonable if:

(1) It adversely affects public health and safety, the environment, or the common defense and security; or

(2) It results in a significant curtailment or cessation of essential services, affecting public health and safety or the common defense and security; or

(3) It is beyond the technical and economic capabilities of the person requesting emergency access; or

(4) Implementation of the alternative would conflict with applicable State or local or Federal laws and regulations; or

(5) It cannot be implemented in a timely manner.

(g) The Commission shall make an affirmative determination under § 62.21(a) of this part only if all of the alternatives that were considered are found to be unreasonable.

(h) As part of its mandated evaluation of the alternatives that were considered by the generator, the Commission shall consider the characteristics of the wastes (including: physical properties, chemical properties, radioactivity, pathogenicity, infectiousness, and toxicity, pyrophoricity, and explosive potential); condition of current container; potential for contaminating the disposal site; the technologies or combination of technologies available for treatment of the waste (including incinerators; evaporators-crystallizers; fluidized bed dryers; thin film evaporators; extruders, evaporators; and Compactors); the suitability of volume reduction equipment to the circumstances (specific activity considerations, actual volume reduction factors, generation of secondary wastes, equipment contamination, effluent releases, worker exposure, and equipment availability); and the administrative controls which could be applied in making a determination whether waste to be delivered for disposal under this part has been reduced in volume to the maximum extent practicable using available technology.

§ 62.26 Criteria for designating a disposal facility.

(a) The Commission shall designate an appropriate non-Federal or regional disposal facility if an affirmative determination is made pursuant to §§ 62.21, 62.23, or 62.24 of this part.

(b) The Commission will exclude a disposal facility from consideration if:

(1) The low-level radioactive wastes of the generator do not meet the criteria established by the license agreement or the license agreement of the facility; or

(2) The disposal facility is in excess of its approved capacity; or

(3) Granting emergency access would delay the closing of the disposal facility pursuant to plans established before the receipt of the request for emergency access; or

(4) The volume of waste requiring emergency access exceeds 20 percent of the total volume of low-level radioactive waste accepted for disposal at the facility during the previous calendar year.

(c) If, after applying the exclusionary criteria in paragraph (b) of this section, more than one disposal facility is identified as appropriate for designation, the Commission will then consider additional factors in designating a facility or facilities including—

(1) Type of waste and its characteristics,

(2) Previous disposal practices,

(3) Transportation

(4) Radiological effects,

(5) Site capability for handling waste,

(6) The volume of emergency access waste previously accepted by each site

oth for the particular year and over-
l, and

(7) Any other considerations deemed
ppropriate by the Commission.

(d) The Commission, in making its
esignation, will also consider any in-
ormation submitted by the operating
on-Federal or regional LLW disposal
ites, or any information submitted by
he public in response to a FEDERAL
EGISTER notice requesting comment,
s provided in paragraph (b) of § 62.11
f this part.

Subpart D—Termination of Emergency Access

62.31 Termination of emergency access.

(a) The Commission may terminate
grant of emergency access when
mergency access is no longer neces-
ary to eliminate an immediate threat
o public health and safety or the
ommon defense and security.

(b) The Commission may terminate
a grant of emergency access if an ap-
plicant has provided inaccurate infor-
mation in its application for emergen-
cy access or if the applicant has failed
to comply with this part or any condi-
tions set by the Commission pursuant
to this part.

PART 70—DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

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AUTHORITY: Secs. 51, 53, 161, 182, 183, 68 Stat. 929, 930, 948, 953, 954, as amended, sec. 234, 83 Stat. 444 as amended (42 U.S.C. 2071, 2073, 2201, 2232, 2233, 2282); secs. 201, as amended, 202, 204, 206, 88 Stat. 1242, as amended, 1244, 1245, 1246 (42 U.S.C. 5841, 5842, 5845, 5846).

Sections 70.1(c) and 70.20a(b) also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 70.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 70.21(g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 70.31 also issued under sec. 57d, Pub. L. 93-377, 88 Stat. 475 (42 U.S.C. 2077). Sections 70.36 and 70.44 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 70.61 also issued under secs. 186, 187, 68 Stat. 955 (42 U.S.C. 2236, 2237). Section 70.62 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 70.3, 70.7(g), 70.19(c), 70.21(c), 70.22 (a), (b), (d)-(k), 70.24 (a) and (b), 70.32 (a) (3), (5), (6), (d), and (i), 70.36, 70.39 (b) and (c), 70.41(a), 70.42 (a) and (c), 70.56, 70.57 (b), (c), and (d), 70.58 (a)-(g)(3), and (h)-(j) are issued under secs. 161b, 161i, and 161o, 68 Stat. 948, 949, and 950 as amended (42 U.S.C. 2201(b), 2201(i), and 2201(o)); §§ 70.7, 70.20a (a) and (d), 70.20b (c) and (e), 70.21(c), 70.24(b), 70.32 (a)(6), (c), (d), (e), and (g), 70.36, 70.51 (c)-(g), 70.56, 70.57 (b) and (d), and 70.58 (a)-(g)(3) and (h)-(j) are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 70.5, 70.9, 70.20b (d) and (e), 70.38, 70.51 (b) and (i), 70.52, 70.53, 70.54, 70.55, 70.58 (g)(4), (k), and (l), 70.59, and 70.60 (b) and (c) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 21 FR 764, Feb. 3, 1956, unless otherwise noted.

GENERAL PROVISIONS

§ 70.1 Purpose.

(a) Except as provided in paragraph (c) of this section, the regulations of this part, establish procedures and criteria for the issuance of licenses to receive title to, own, acquire, deliver, receive, possess, use, and initially transfer special nuclear material; and establish and provide for the terms and conditions upon which the Commission will issue such licenses.

(b) The regulations contained in this part are issued pursuant to the Atomic Energy Act of 1954, as amended (68 Stat. 919) and Title II of the Energy Reorganization Act of 1974 (88 Stat. 1242).

(c) The regulations in part 72 of this chapter establish requirements, procedures, and criteria for the issuance of licenses to possess:

(1) Spent fuel and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation (ISFSI), or

(2) Spent fuel, high-level radioactive waste, and other radioactive materials asociated with the storage in a monitored retrievable storage installation (MRS), and the terms and conditions under which the Commission will issue such licenses.

[21 FR 764, Feb. 3, 1956, as amended at 32 FR 4056, Mar. 15, 1967; 40 FR 8791, Mar. 1 1975; 43 FR 6924, Feb. 17, 1978; 45 FR 74712, Nov. 12, 1980; 53 FR 31682, Aug. 1 1988]

§ 70.2 Scope.

Except as provided in §§ 70.11 to 70.13, inclusive, the regulations in this part apply to all persons in the United States.

§ 70.3 License requirements.

No person subject to the regulations in this part shall receive title to, own, acquire, deliver, receive, possess, use or transfer special nuclear material except as authorized in a license issued by the Commission pursuant to these regulations.

[32 FR 2562, Feb. 7, 1967, as amended at 43 FR 6924, Feb. 17, 1978]

§ 70.4 Definitions.

Act means the Atomic Energy Act of 1954 (68 Stat 919), including any amendments thereto;

Agreement State as designated in part 150 of this chapter means any State with which the Commission has entered into an effective agreement under subsection 274b. of the Act

Non-agreement State means any other State.

Alert means events may occur, are in progress, or have occurred that could lead to a release of radioactive material[s] but that the release is not expected to require a response by an offsite response organization to protect persons offsite.

Atomic energy means all forms of energy released in the course of nuclear fission or nuclear transformation;

Atomic weapon means any device utilizing atomic energy, exclusive ofthe means for transporting or propelling the device (where such means is a separable and divisible part of the device), the principal purpose of which is for use as, or for development of, a weapon, a weapon prototype, or a weapon test device;

Commencement of construction means any clearing of land, excavation, or other substantial action that would adversely affect the natural environment of a site but does not include changes desirable for the temporary use of the land for public recreational uses, necessary borings to determine site characteristics or other preconstruction monitoring to establish background information related to the suitability of a site or to the protection of environmental values.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives;

Common defense and security means the common defense and security of the United States;

Decommission means to remove (as a facility) safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and termination of license.

Department and *Department of Energy* means the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565, 42 U.S.C. 7101 *et seq.*), to the extent that the Department, or its duly authorized representatives, exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers and components and transferred to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to sections 104(b), (c) and (d) of the Energy Reorganization Act of 1974 (Pub. L. 93-438, 88 Stat. 1233 at 1237, 42 U.S.C. 5814) and retransferred to the Secretary of Energy pursuant to section 301(a) of the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565 at 577-578, 42 U.S.C. 7151).

Effective dose equivalent means the sum of the products of the dose equivalent to the body organ or tissue and the weighting factors applicable to each of the body organs or tissues that are irradiated. Weighting factors are: 0.25 for gonads, 0.15 for breast, 0.12 for red bone marrow, 0.12 for lungs, 0.03 for thyroid, 0.03 for bone surface, and 0.06 for each of the other five organs receiving the highest dose equivalent.

Effective kilograms of special nuclear material means: (1) For plutonium and uranium-233 their weight in kilograms; (2) For uranium with an enrichment in the isotope U-235 of 0.01 (1%) and above, its element weight in kilograms multiplied by the square of its enrichment expressed as a decimal weight fraction; and (3) For uranium with an enrichment in the isotope U-235 below 0.01 (1%), by its element weight in kilograms multiplied by 0.0001.

Formula quantity means strategic special nuclear material in any combination in a quantity of 5000 grams or more computed by the formula, grams=(grams contained U^{235}) +2.5 (grams U^{233}+grams plutonium).

Government agency means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government;

License, except where otherwise specified, means a license issued pursuant to the regulations in this part;

Person means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department, except that the Department shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244),[9] any State or any political subdivision of or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing;

Plutonium processing and fuel fabrication plant means a plant in which the following operations or activities are conducted: (1) Operations for manufacture of reactor fuel containing plutonium including any of the following: (i) Preparation of fuel material; (ii) formation of fuel material into desired shapes; (iii) application of protective cladding; (iv) recovery of scrap material; and (v) storage associated with such operations; or (2) research and development activities involving any of the operations described in paragraph (r) (1) of this section, except for research and development activities utilizing unsubstantial amounts of plutonium.

Produce, when used in relation to special nuclear material, means (1) to manufacture, make, produce, or refine special nuclear material; (2) to separate special nuclear material from other substances in which such material may be contained; or (3) to make or to produce new special nuclear material;

Research and development means (1) theoretical analysis, exploration, or experimentation; or (2) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials, and processes;

Restricted Data means all data concerning (1) design, manufacture or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to section 142 of the Act;

Sealed source means any special nuclear material that is encased in a capsule designed to prevent leakage or escape of the special nuclear material.

Site Area emergency means events may occur, are in progress, or have occurred that could lead to a significant release of radioactive material and that could require a response by offsite response organizations to protect persons offsite.

Source material means source material as defined in section 11z. of the Act and in the regulations contained in part 40 of this chapter;

Special nuclear material means (1) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the act, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing but does not include source material;

Special nuclear material of low strategic significance means: (1) Less than an amount of special nuclear material of moderate strategic significance, as defined in § 70.4(z)(1), but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = (grams contained U^{235}) + (grams plutonium)+(grams U^{233}); or (2) Less than 10,000 grams but more than 1000 grams of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U^{235} isotope); or (3) 10,000 grams or more of uranium-235 (contained in uranium enriched above natural but less than 10 percent in the U^{235} isotope).

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[9] The Department facilities identified in section 202 are:

(1) Demonstration Liquid Metal Fast Breeder reactors when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(2) Other demonstration nuclear reactors, except those in existence on January 19, 1975, when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(3) Facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from licensed activities.

(4) Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive waste generated by the Department, which are not used for, or are part of, research and development activities.

Special nuclear material of moderate strategic significance means: (1) Less than a formula quantity of strategic special nuclear material but more than 1000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope) or more than 500 grams of uranium-233 or plutonium or in a combined quantity of more than 1000 grams when computed by the equation, grams=(grams contained U^{235})+2 (grams U^{233} + grams plutonium); or (2) 10,000 grams or more of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U^{235} isotope).

Special nuclear material scrap means the various forms of special nuclear material generated during chemical and mechanical processing, other than recycle material and normal process intermediates, which are unsuitable for use in their present form, but all or part of which will be used after further processing.

Strategic special nuclear material means uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope), uranium-233, or plutonium.

Transient shipment means a shipment of nuclear material, originating and terminating in foreign countries, on a vessel or aircraft which stops at a United States port.

United States, when used in a geographical sense, includes Puerto Rico and all territories and possessions of the United States.

[21 FR 764, Feb. 3, 1956]

EDITORIAL NOTE: For Federal Register citations affecting § 70.4, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 70.5 Communications.

(a) Unless otherwise specified or covered under the regional licensing program as provided in paragraph (b) of this section, any communication or report concerning the regulations in this part and any application filed under these regulations may be submitted to the Commission as follows:

(1) By mail addressed to: Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(2) By delivery in person to the Commission's offices to the Director, Office of Nuclear Material Safety and Safeguards at:

(i) 2120 L Street NW., Washington, DC; or

(ii) 11555 Rockville Pike, One White Flint North, Rockville, MD.

(b) The Commission has delegated to the five Regional Administrators licensing authority for selected parts of its decentralized licensing program for nuclear materials as described in paragraph (b)(1) of this section. Any communication, report, or application covered under this licensing program must be submitted as specified in paragraph (b)(2) of this section.

(1) The delegated licensing program includes authority to issue, renew, amend, cancel, modify, suspend, or revoke licenses for nuclear materials issued pursuant to 10 CFR Parts 30 through 35, 39, 40, and 70 to all persons for academic, medical, and industrial uses, with the following exceptions:

(i) Activities in the fuel cycle and special nuclear material in quantities sufficient to constitute a critical mass in any room or area. This exception does not apply to license modifications relating to termination of special nuclear material licenses that authorize possession of larger quantities when the case is referred for action from NRC's Headquarters to the Regional Administrators.

(ii) Health and safety design review of sealed sources and devices and approval, for licensing purposes, of sealed sources and devices.

(iii) Processing of source material for extracting of metallic compounds (including Zirconium, Hafnium, Tantalum, Titanium, Niobium, etc.).

(iv) Distribution of products containing radioactive material to persons exempt pursuant to 10 CFR 32.11 through 32.26.

(v) New uses or techniques for use of byproduct, source, or special nuclear material.

(vi) Reviews pursuant to § 70.32(c).

(2) *Submissions*—(i) *Region I.* The regional licensing program involves all Federal facilities in the region and non-Federal licensees in the following Region I non-Agreement States and the District of Columbia: Connecticut, Delaware, Maine, Massachusetts, New Jersey, Pennsylvania, and Vermont. All inquiries, communications, and applications for a new license or an amendment or renewal of an existing license specified in paragraph (b)(1) of this section must be sent to: U.S. Nuclear Regulatory Commission, Region I, Nuclear Material Section B, 475 Allendale Road, King of Prussia, PA 19406.

(ii) *Region II.* The regional licensing program involves all Federal facilties in the region and non-Federal licensees in the following Region II non-Agreement States and territories: Virginia, West Virginia, Puerto Rico, and the Virgin Islands. All inquiries, communications, and applications for a new license or an amendment or renewal of an existing license specified in paragraph (b)(1) of this section must be sent to: U.S. Nuclear Regulatory Commission, Region II, Material Radiation Protection Section, 101 Marietta Street, NW, Suite 2900, Atlanta, GA 30323.

(iii) *Region III.* The regional licensing program involves all Federal facilities in the region and non-Federal licensees in the following Region III non-Agreement States: Indiana, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. All inquiries, communications, and applications for a new license or an amendment or renewal of an existing license specified in paragraph (b)(1) of this section must be sent to: U.S. Nuclear Regulatory Commission, Region III, Material Licensing Section, 799 Roosevelt Road, Glen Ellyn, IL 60137.

(iv) *Region IV.* The regional licensing program involves all Federal facilities in the region and non-Federal licensees in the following Region IV non-Agreement States: Montana, Oklahoma, South Dakota, and Wyoming. All inquiries, communications, and applications for a new license or an amendment or renewal of an existing license specified in paragraph (b)(1) of this section must be sent to: U.S. Nuclear Regulatory Commission, Region IV, Material Radiation Protection Section, 611 Ryan Plaza Drive, Suite 1000, Arlington, TX 76011.

(v) *Region V.* The regional licensing program involves all Federal facilities in the region and non-Federal licensees in the following Region V non-Agreement States and a territory: Alaska, Hawaii, and Guam. All inquiries, communications, and applications for a new license or an amendment or renewal of an existing license specified in paragraph (b)(1) of this section must be sent to: U.S. Nuclear Regulatory Commission, Region V, Material Radiation Protection Section, 1450 Maria Lane, Suite 210, Walnut Creek, CA 94596.

[48 FR 16032, Apr. 14, 1983, as amended at 49 FR 19631, May 9, 1984; 49 FR 47824, Dec. 7, 1984; 50 FR 14694, Apr. 15, 1985; 51 FR 36001, Oct. 8, 1986; 52 FR 38392, Oct. 16, 1987; 52 FR 48093, Dec. 18, 1987; 53 FR 3862, Feb. 10, 1988; 53 FR 4111, Feb. 12, 1988; 53 FR 43421, Oct. 27, 1988; 54 FR 6877, Feb. 15, 1989]

§ 70.6 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 70.7 Employee protection.

(a) Discrimination by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, and privileges of employment. The protected activities are established in section 210 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to:

(i) Providing the Commission information about possible violations of requirements imposed under either of the above statutes;

(ii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements; or

(iii) Testifying in any Commission proceeding.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in the protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 30 days after an alleged violation occurs by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraph (a) or paragraph (g) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for—

(1) Denial, revocation, or suspension of the license.

(2) Imposition of a civil penalty on the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e) Each licensee and each applicant shall post Form NRC-3 "Notice to Employees," on its premises. Posting must be at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. Premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

NOTE: Copies of Form NRC-3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D, part 20 of this chapter.

(f) The general licenses provided in §§ 70.19 and 70.20 are exempt from paragraph (e) of this section.

(g) No agreement affecting the compensation, terms, conditions and privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 210 of the Energy Reorganization Act of 1974, may contain any provision which would prohibit, restrict, or otherwise discourage, an employee from participating in protected activity as defined in paragraph (a)(1) of this section, including, but not limited to, providing information to the NRC on potential violations or other matters within NRC's regulatory responsibilities.

[47 FR 30457, July 14, 1982, as amended at 52 FR 31612, Aug. 21, 1987; 55 FR 10405, Mar. 21, 1990]

§ 70.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved information collection requirements contained in this part under control number 3150-0009.

(b) The approved information collection requirements contained in this part appear in §§ 70.19, 70.20a, 70.20b, 70.21, 70.22, 70.24, 70.32, 70.33, 70.34, 70.38, 70.39, 70.51, 70.52, 70.53, 70.57, 70.58, 70.59, and 70.60.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In § 70.21, Form N-71 is approved under control number 3150-0056.

(2) In § 70.38, Form NRC-314 is approved under control number 3150-0028.

(3) In § 70.53, Form NRC-742 is approved under control number 3150-0004.

(4) In § 70.53, Form NRC-742c is approved under control number 3150-0058.

(5) In § 70.54, Form NRC-741 is approved under control number 3150-0003.

(6) In § 70.53, NRC Form 327 is approved under control number 3150-0139.

[49 FR 19628, May 9, 1984, as amended at 52 FR 19305, May 22, 1987]

§ 70.9 Completeness and accuracy of information.

(a) Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

(b) Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Commission of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification shall be provided to the Administrator of the appropriate Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the Commission by other reporting or updating requirements.

[52 FR 49373, Dec. 31, 1987]

EXEMPTIONS

§ 70.11 Persons using special nuclear material under certain Department of Energy and Nuclear Regulatory Commission contracts.

Except to the extent that Department facilities or activities of the types subject to licensing pursuant to section 202 of the Energy Reorganization Act of 1974 are involved,[10] any

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[10] The Department facilities identified in section 202 are:

(1) Demonstration Liquid Metal Fast Breeder reactors when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(2) Other demonstration nuclear reactors except those in existence on January 19, 1975, when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(3) Facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from licensed activities.

Continued

prime contractor of the Department is exempt from the requirements for a license set forth in section 53 of the Act and from the regulations in this part to the extent that such contractor, under his prime contract with the Department receives title to, owns, acquires, delivers, receives, possesses, uses, or transfers special nuclear material for:

(a) The performance of work for the Department at a United States Government-owned or controlled site, including the transportation of special nuclear material to or from such site and the performance of contract services during temporary interruptions of such transportation; (b) research in, or development, manufacture, storage, testing or transportation of, atomic weapons or components thereof; or (c) the use or operation of nuclear reactors or other nuclear devices in a United States Government-owned vehicle or vessel. In addition to the foregoing exemptions, and subject to the requirement for licensing of Department facilities and activities pursuant to section 202 of the Energy Reorganization Act of 1974, any prime contractor or subcontractor of the Department or the Commission is exempt from the requirements for a license set forth in section 53 of the Act and from the regulations in this part to the extent that such prime contractor or subcontractor receives title to, owns, acquires, delivers, receives, possesses, uses, or transfers special nuclear material under his prime contract or subcontract when the Commission determines that the exemption of the prime contractor or subcontractor is authorized by law; and that, under the terms of the contract or subcontract there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety.

[40 FR 14085, Mar. 28, 1975; 40 FR 16047, Apr. 9, 1975; as amended at 43 FR 6924, Feb. 17, 1978]

§ 70.12 Carriers.

Common and contract carriers, freight forwarders, warehousemen, and the U.S. Postal Service are exempt from the regulations in this part to the extent that they transport special nuclear material in the regular course of carriage for another or storage incident thereto. This exemption does not apply to the storage in transit or transport of material by persons covered by the general license issued under § 70.20a and § 70.20b.

[46 FR 12696, Feb. 18, 1981]

§ 70.13 Department of Defense.

The regulations in this part do not apply to the Department of Defense to the extent that the Department receives, possesses and uses special nuclear material in accordance with the direction of the President pursuant to section 91 of the Act.

§ 70.13a Foreign military aircraft.

The regulations in this part do not apply to persons who carry special nuclear material (other than plutonium) in aircraft of the armed forces of foreign nations subject to 49 U.S.C. 1508(a).

[46 FR 12194, Feb. 13, 1981]

§ 70.14 Specific exemptions.

(a) The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

(b) [Reserved]

(c) The DOE is exempt from the requirements of the regulations in this part to the extent that its activities are subject to the requirements of part 60 of the chapter.

(d) Except as specifically provided in part 61 of this chapter, any licensee is exempt from the requirements of the regulations in this part to the extent

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(4) Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive waste generated by the Department, which are not used for, or are part of, research and development activities.

that its activities are subject to the requirements of part 61 of this chapter.

[37 FR 5749, Mar. 21, 1972, as amended at 45 FR 65536, Oct. 3, 1980; 46 FR 13987, Feb. 25, 1981; 47 FR 57481, Dec. 27, 1982]

GENERAL LICENSES

§ 70.18 Types of licenses.

Licenses for special nuclear material are of two types: general and specific. Any general license provided in this part is effective without the filing of applications with the Commission or the issuance of licensing documents to particular persons. Specific licenses are issued to named persons upon applications filed pursuant to the regulations in this part.

[29 FR 5884, May 5, 1964]

§ 70.19 General license for calibration or reference sources.

(a) A general license is hereby issued to those persons listed below to receive title to, own, acquire, deliver, receive, possess, use and transfer in accordance with the provisions of paragraphs (b) and (c) of this section, plutonium in the form of calibration or reference sources:

(1) Any person in a non-agreement State who holds a specific license issued by the Commission or the Atomic Energy Commission which authorizes him to receive, possess, use and transfer byproduct material, source material, or special nuclear material;

(2) Any Government agency, as defined in § 70.4(f), which holds a specific license issued by the Commission or the Atomic Energy Commission which authorizes it to receive, possess, use and transfer byproduct material, source material, or special nuclear material; and

(3) Any person in an agreement State who holds a specific license issued by the Commission or the Atomic Energy Commission which authorizes him to receive, possess, use and transfer special nuclear material.

(b) The general license in paragraph (a) of this section applies only to calibration or reference sources which have been manufactured or initially transferred in accordance with the specifications contained in a specific license issued pursuant to § 70.39 or
accordance with the specificatio
contained in a specific license iss
by an agreement State which autho
izes manufacture of the sources fo
distribution to persons generally li
censed by the agreement State.

(c) The general license in paragra
(a) of this section is subject to the pr
visions of §§ 70.32, 70.51, 70.52, 70.5
70.56, 70.61, 70.62, and 70.71, and t
the provisions of Parts 19, 20 and 21 o
this chapter. In addition, persons wh
receive title to, own, acquire, delive
receive, possess, use or transfer one o
more calibration or reference source
pursuant to this general license:

(1) Shall not possess at any on
time, at any one location of storage o
use, more than 5 microcuries of plut
nium in such sources;

(2) Shall not receive, possess, use o
transfer such source unless the sourc
or the storage container, bears a labe
which includes the following stat
ment or a substantially similar stat
ment which contains the informatio
called for in the following statement

> The receipt, possession, use and transf
> of this source, Model ——, Serial No. —
> are subject to a general license and the re
> ulations of the United States Nuclear Reg
> latory Commission or of a State with whi
> the Commission has entered into an agre
> ment for the exercise of regulatory autho
> ity. Do not remove this label.
>
> CAUTION—RADIOACTIVE MATERIAL—TH
> SOURCE CONTAINS PLUTONIUM. DO N
> TOUCH RADIOACTIVE PORTION OF TH
> SOURCE.
>
> (Name of Manufacturer or Initial Transferor)

(3) Shall not transfer, abandon, o
dispose of such source except by tran
fer to a person authorized by a licens
from the Commission or the Atomi
Energy Commission or an Agreemen
State to receive the source.

(4) Shall store such source, excep
when the source is being used, in
closed container adequately designe
and constructed to contain plutoniu

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[1] Sources generally licensed under this se
tion prior to January 19, 1975 may be
labels authorized by the regulations i
effect on January 1, 1975.

which might otherwise escape during storage.

(5) Shall not use such source for any purpose other than the calibration of radiation detectors or the standardization of other sources.

(d) The general license in paragraph (a) of this section does not authorize the manufacture, import, or export of calibration or reference sources containing plutonium.

[29 FR 5884, May 5, 1964, as amended at 32 FR 8124, June 7, 1967; 38 FR 22221, Aug. 17, 1973; 40 FR 8792, Mar. 3, 1975; 42 FR 28896, June 6, 1977; 43 FR 6924, Feb. 17, 1978; 48 FR 32329, July 15, 1983]

§ 70.20 General license to own special nuclear material.

A general license is hereby issued to receive title to and own special nuclear material without regard to quantity. Notwithstanding any other provision of this chapter, a general licensee under this section is not authorized to acquire, deliver, receive, possess, use, transfer, import, or export special nuclear material, except as authorized in a specific license.

[33 FR 9810, July 9, 1968]

§ 70.20a General license to possess special nuclear material for transport.

(a) A general license is hereby issued to any person to possess formula quantities of strategic special nuclear material of the types and quantities subject to the requirements of §§ 73.20, 73.25, 73.26, and 73.27 of this chapter and irradiated reactor fuel containing material of the types and quantities subject to the requirements of § 73.37 of this chapter, in the regular course of carriage for another or storage incident thereto. Carriers generally licensed under § 70.20b are exempt from the requirements of this section. Carriers of irradiated reactor fuel for the United States Department of Energy are also exempt from the requirements of this section. The general license is subject to the applicable provisions of §§ 70.7 (a) through (e); 70.32 (a) and (b), and §§ 70.42, 70.52, 70.55, 70.61, 70.62, and 70.71.

(b) Notwithstanding any other provision of this chapter, the general license issued under this section does not authorize any person to conduct any activity that would be authorized by a license issued pursuant to Parts 30 through 35, 39, 40, 50, 72, 110, or other sections of this part.

(c) Notwithstanding any other provision of this chapter, the duties of a general licensee under this section while in possession of formula quantities of strategic special nuclear material or irradiated reactor fuel in the regular course of carriage for another or storage incident thereto shall be limited to providing for the physical protection of such material against theft or sabotage. Unless otherwise provided by this section, a general license under this section is not subject to the requirements of Parts 19, 20, 70 and 73.

(d) Any person who possesses formula quantities of strategic special nuclear material under this general license:

(1) Shall have submitted and received approval of a transportation security plan. The security plan shall outline the procedures that will be used to meet the requirements of §§ 73.20, 73.25, 73.26, 73.27 and 73.70(g) of this chapter including a plan for the selection, qualification, and training of armed escorts, or the specification and design of a specially designed truck or trailer as appropriate.

(2) Shall assure that the transportation is in accordance with the applicable physical protection requirements of §§ 73.20, 73.25, 73.26, 73.27 and 73.70(g) of this chapter and the applicable approved transportation security plan.

(3) Shall be subject to § 73.80 of this chapter.

(e) Any person who possesses irradiated reactor fuel under this general license shall:

(1) Assure or receive certification from the shipper that the transportation is in accordance with the applicable physical protection requirements of § 73.37 of this chapter; and

(2) Comply with the reporting requirements of § 73.71 of this chapter.

[44 FR 26851, May 8, 1979, as amended at 44 FR 68186, Nov. 28, 1979; 46 FR 12696, Feb. 18, 1981; 47 FR 30458, July 14, 1982; 53 FR 31682, Aug. 19, 1988]

§ 70.20b General license for carriers of transient shipments of formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance, special nuclear material of low strategic significance, and irradiated reactor fuel.

(a) A general license is hereby issued to any person to possess transient shipments of the following kinds and quantities of special nuclear material:

(1) A formula quantity of special nuclear material of the types and quantities subject to the requirements of §§ 73.20, 73.25, 73.26, and 73.27 of this chapter.

(2) Special nuclear material of moderate and low strategic significance of the types and quantities subject to the requirements of § 73.67 of this chapter.

(3) Irradiated reactor fuel of the type and quantity subject to the requirements of § 73.37 of this chapter.

(b) Persons generally licensed under this section are exempt from the requirements of Parts 19 and 20 of this chapter and the requirements of this part, except §§ 70.32 (a) and (b), 70.52, 70.55, 70.61, 70.62, and 70.71.

(c) Persons generally licensed under this section to possess a transient shipment of special nuclear material of the kind and quantity specified in paragraph (a)(1) of this section shall provide physical protection for that shipment in accordance with or equivalent to §§ 73.20(a), 73.20(b), 73.25, and 73.71(b) of this chapter from the time a shipment enters a United States port until it exits that or another United States port.

(d) Persons generally licensed under this section to possess a transient shipment of special nuclear material of moderate or low strategic significance of the kind and quantity specified in paragraph (a)(2) of this section shall provide physical protection for that shipment in accordance with or equivalent to § 73.67 of this chapter and shall comply with the requirements of § 73.71(b) of this chapter.

(e) Persons generally licensed under this section to possess a transient shipment of irradiated reactor fuel of the kind and quantity specified in paragraph (a)(3) of this section shall provide physical protection for that shipment in accordance with or equivalent to § 73.37 of this chapter and shall comply with the requirements of § 73.71(b) of this chapter.

(f)(1) Persons generally licensed under this section, who plan to carry transient shipments with scheduled stops at United States ports, shall notify in writing the Division of Safeguards and Transportation, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(2) A person generally licensed under this section shall assure that:

(i) The notification will be received at least 10 days before transport of the shipment commences at the shipping facility;

(ii) The Division of Safeguards and Transportation has been notified by telephone at 301-427-4033, at least 10 days before transport of the shipment commences at the shipping facility that an advance shipping notice has been sent by mail; and

(iii) The Division of Safeguards and Transportation will be notified by telephone at 301-427-4033 of any changes to the shipment itinerary.

(3) Persons who are generally licensed under paragraph (a)(1) of this section must include the information listed in paragraphs (f)(3)(i) through (ix) of this section. Persons who are generally licensed under § 70.20b(a)(2) and § 70.20b(a)(3) must include the information listed in paragraphs (f)(3)(i) through (viii) of this section.

(i) Location of all scheduled stops in United States territory;

(ii) Arrival and departure times for all scheduled stops in United States territory;

(iii) The type of transport vehicle;

(iv) A physical description of the shipment (elements, isotopes, and enrichments);

(v) The number and types of containers;

(vi) The name and telephone number of the carrier's representative at each stopover location in United States territory;

(vii) The estimated time and date that shipment will commence and that each country (other than the United States) along the route is scheduled to be entered;

(viii) For shipments between coun- ries that are not party to the Conven- ion on the Physical Protection of Nu- lear Material, provide assurances, as ar as is practicable, that this nuclear naterial will be protected during nternational transport at levels de- cribed in Annex I to that Convention see appendices E and F of part 73 of his chapter); and

(ix) A physical protection plan for mplementing the requirement of 70.20b(c), which will include the use f armed personnel to protect the hipment during the time the ship- nent is in a United States port.

(g) Persons generally licensed under his section making unscheduled stops t United States ports, immediately fter the decision to make an unsched- led stop, shall:

(1) Provide to the Division of Safe- uards and Transportation, the infor- nation required under paragraph (f) f this section.

(2) In the case of persons generally icensed under paragraph (a)(1) of this ection, arrange for local law enforce- nent authorities or trained and quali- ied private guards to protect the ship- nent during the stop.

(3) In the case of persons generally icensed under paragraph (a)(2) of this ection, arrange for the shipment to e protected as required in § 73.67(e) f this chapter.

(4) In the case of persons generally icensed under paragraph (a)(3) of this section, arrange for the shipment to be protected as required in § 73.37(e) of this chapter.

(5) Implement these arrangements within a reasonable time after the arrival of the shipment at a United States port to remain in effect until the shipment exits that or another United States port.

[52 FR 9652, Mar. 26, 1987]

License Applications

§70.21 Filing.

(a)(1) A person may apply for a license to possess and use special nuclear material in a plutonium processing or fuel fabrication plant, by filing 25 copies of the application with the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(2) A person may apply for any other license issued under this part, by filing six copies of the application in accordance with the instructions in §70.5.

(3) Information contained in previous applications, statements, or reports filed with the Commission may be incorporated by reference if the references are clear and specific.

(b) An application for license filed pursuant to the regulations in this part will be considered also as an application for licenses authorizing other activities for which licenses are required by the Act, provided the application specifies the additional activities for which licenses are requested and complies with regulations of the Commission as to applications for such licenses.

(c) Any application which contains Restricted Data shall be prepared in such manner that all Restricted Data are separated from the unclassified information.

(d) Applications and documents submitted to the Commission in connection with applications may be made available for public inspection in accordance with the provisions of the regulations contained in part 2 of this chapter.

(e) Each application for a special nuclear material license, other than a license exempted from part 170 of this chapter, shall be accompanied by the fee prescribed in § 170.31 of this chapter. No fee will be required to accompany an application for renewal or amendment of a license, except as provided in § 170.31 of this chapter.

(f) An application for a license to possess and use special nuclear material for processing and fuel fabrication, scrap recovery or conversion of uranium hexafluoride, or for the conduct of any other activity which the Commission has determined pursuant to subpart A of part 51 of this chapter will significantly affect the quality of the environment shall be filed at least 9 months prior to commencement of construction of the plant or facility in which the activity will be conducted, and shall be accompanied by an Environmental Report required under subpart A of part 51 of this chapter.

(g) In response to a written request by the Commission, an applicant for a license to possess and use more than one effective kilogram of special nuclear material shall file with the Commission the installation information described in § 75.11 of this chapter on Form N-71. The applicant shall also permit verification of such installation information by the International Atomic Energy Agency and take such other action as may be necessary to implement the US/IAEA Safeguards Agreement, in the manner set forth in § 75.6 and §§ 75.11 through 75.14 of this chapter.

[21 FR 764, Feb. 3, 1956, as amended at 23 FR 1122, Feb. 21, 1958; 31 FR 4670, Mar. 19, 1966; 34 FR 19546, Dec. 11, 1969; 36 FR 146, Jan. 6, 1971; 37 FR 5749, Mar. 21, 1972; 49 FR 9405, Mar. 12, 1984; 49 FR 19628 and 19632, May 9, 1984; 49 FR 21699, May 23, 1984]

§ 70.22 Contents of applications.

(a) Each application for a license shall contain the following information:

(1) The full name, address, age (if an individual), and citizenship of the applicant and the names and addresses of three personal references. If the applicant is a corporation or other entity, it shall indicate the State where it was incorporated or organized, the location of the principal office, the names, addresses, and citizenship of its principal officers, and shall include information known to the applicant concerning the control or ownership, if any, exercised over the applicant by any alien, foreign corporation, or foreign government;

(2) The activity for which the special nuclear material is requested, or in which special nuclear material will be produced, the place at which the activity is to be performed and the general plan for carrying out the activity;

(3) The period of time for which the license is requested;

(4) The name, amount, and specifications (including the chemical and physical form and, where applicable, isotopic content) of the special nuclear material the applicant proposes to use or produce;

(5) [Reserved]

(6) The technical qualifications, including training and experience of the applicant and members of his staff to engage in the proposed activities in accordance with the regulations in this chapter;

(7) A description of equipment and facilities which will be used by the applicant to protect health and minimize danger to life or property (such as handling devices, working areas, shields, measuring and monitoring instruments, devices for the disposal of radioactive effluents and wastes, storage facilities, criticality accident alarm systems, etc.);

(8) Proposed procedures to protect health and minimize danger to life or property (such as procedures to avoid accidental criticality, procedures for personnel monitoring and waste disposal, post-criticality accident emergency procedures, etc.).

NOTE: Where the nature of the proposed activities is such as to require consideration of the applicant's financial qualifications to engage in the proposed activities in accordance with the regulations in this chapter, the Commission may request the applicant to submit information with respect to his financial qualifications.

(9) As provided by § 70.25, certain applications for specific licenses filed under this part must contain a proposed decommissioning funding plan or a certification of financial assurance for decommissioning. In the case of renewal applications submitted on or before July 27, 1990, this submittal may follow the renewal application but must be submitted on or before July 27, 1990.

(b) Each application for a license to possess and use at any one time and location special nuclear material in a quantity exceeding one effective kilogram except for applications for use as sealed sources and for those uses involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter and those involved in a waste disposal operation, must contain a full description of the applicant's program for control and accounting for that special nuclear material which will be in the applicant's possession under license, to show how comliance with the requirements of 70.58, § 74.31, or § 74.51 of this chapter, as applicable, will be accomplished.

(c) [Reserved]

(d) The Commission may at any ime after the filing of the original ap- lication, and before the expiration of he license, require further statements n order to enable the Commission to etermine whether the application hould be granted or denied or whether a license should be modified or re- oked. All applications and statements hall be signed by the applicant or li- ensee or a corporate officer thereof.

(e) Each application and statement hall contain complete and accurate isclosure as to all matters and things equired to be disclosed.

(f) Each application for a license to ossess and use special nuclear materi- l in a plutonium processing and fuel abrication plant shall contain, in ad- ition to the other information re- uired by this section, a description of he plantsite, a description and safety ssessment of the design bases of the rincipal structure, systems, and com- onents of the plant, including provi- ions for protection against natural henomena, and a description of the uality assurance program to be ap- lied to the design, fabrication, con- truction, testing and operation of the tructures, systems, and components of the plant.[2]

(g)(1) Each application for a license that would authorize the transport or delivery to a carrier for transport of special nuclear material in an amount specified in § 73.1(b)(2) of this chapter must include (i) a description of the plan for physical protection of special nuclear material in transit in accordance with §§ 73.20, 73.25, 73.26, 73.27, and 73.67(a), (e), and (g) for 10 kg or more of special nuclear material of low strategic significance, and § 73.70(g) of this chapter including, as appropriate, a plan for the selection, qualification, and training of armed escorts, or the specification and design of a specially designed truck or trailer, and (ii) a licensee safeguards contingency plan or response procedures, as appropriate, for dealing with threats, thefts, and radiological sabotage relating to the special nuclear material in transit.

(2) Each application for such a license involving formula quantities of strategic special nuclear material must include the first four categories of information contained in the applicant's safeguards contingency plan. (The first four categories of information, as set forth in appendix C to part 73 of this chapter, are Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix. The fifth category of information, Procedures, does not have to be submitted for approval.)

(3) The licensee shall retain this description of the plan for physical protection of special nuclear material in transit and the safeguards contingency plan or safeguards response procedures and each change to the plan or procedures as a record for a period of three years following the date on which the licensee last possessed the appropriate type and quantity of special nuclear material requiring this record under each license.

(h)(1) Each application for a license to possess or use at any site or contiguous sites subject to control by the licensee uranium-235 (contained in uranium enriched to 20 percent or more in the uranium-235 isotope), uranium-233, or plutonium alone or in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium), other than a license for possession or use of this material in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter, must include a physical security plan, consisting of two parts. Part I must address vital equipment, vital areas, and isolation zones, and must demonstrate how the applicant plans to meet the requirements of §§ 73.20, 73.40, 73.45, 73.46, 73.50, 73.60, 73.70, and 73.71 of this chapter in the conduct of the activity to be licensed, including the identification and description of jobs as required by § 11.11(a) of this chapter. Part II must list tests, inspections, and other means to demonstrate compliance with such requirements.

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[2] The description of the quality assurance program should include a discussion of how the criteria in appendix B of part 50 of this chapter will be met.

(2) The licensee shall retain a copy of this physical security plan and each change to the plan as a record for a period of three years following the date on which the licensee last possessed the appropriate type and quantity of special nuclear material requiring this record under each license.

(i)(1) Each application to possess enriched uranium or plutonium for which a criticality accident alarm system is required, uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total, or in excess of 2 curies of plutonium in unsealed form or on foils or plated sources, must contain either:

(i) An evaluation showing that the maximum dose to a member of the public offsite due to a release of radioactive materials would not exceed 1 rem effective dose equivalent or an intake of 2 milligrams of soluble uranium, or

(ii) An emergency plan for responding to the radiological hazards of an accidental release of special nuclear material and to any associated chemical hazards directly incident thereto.

(2) One or more of the following factors may be used to support an evaluation submitted under paragraph (i)(1)(i) of this section:

(i) The radioactive material is physically separated so that only a portion could be involved in an accident;

(ii) All or part of the radioactive material is not subject to release during an accident or to criticality because of the way it is stored or packaged;

(iii) In the case of fires or explosions, the release fraction would be lower than 0.001 due to the chemical or physical form of the material;

(iv) The solubility of the material released would reduce the dose received;

(v) The facility design or engineered safety features in the facility would cause the release fraction to be lower than 0.001;

(vi) Operating restrictions or procedures would prevent a release large enough to cause a member of the public offsite to receive a dose exceeding 1 rem effective dose equivalent; or

(vii) Other factors appropriate for the specific facility.

(3) Emergency plans submitted under paragraph (i)(1)(ii) of this section must include the following information:

(i) Facility description. A brief description of the licensee's facility and area near the site.

(ii) Types of accidents. An identification of each type of radioactive materials accident for which protective actions may be needed.

(iii) Classification of accidents. A classification system for classifying accidents as alerts or site area emergencies.

(iv) Detection of accidents. Identification of the means of detecting each type of accident in a timely manner.

(v) Mitigation of consequences. A brief description of the means and equipment for mitigating the consequences of each type of accident, including those provided to protect workers onsite, and a description of the program for maintaining the equipment.

(vi) Assessment of releases. A brief description of the methods and equipment to assess releases of radioactive materials.

(vii) Responsibilities. A brief description of the responsibilities of licensee personnel should an accident occur, including identification of personnel responsible for promptly notifying offsite response organizations and the NRC; also responsibilities for developing, maintaining, and updating the plan.

(viii) Notification and coordination. A commitment to and a brief description of the means to promptly notify offsite response organizations and request offsite assistance, including medical assistance for the treatment of contaminated injured onsite workers when appropriate. A control point must be established. The notification and coordination must be planned so that unavailability of some personnel, parts of the facility, and some equipment will not prevent the notification and coordination. The licensee shall also commit to notify the NRC operations center immediately after notification of the appropriate offsite response organizations and not later than one hour after the licensee declares an emergency.[1]

(ix) Information to be communicated. A brief description of the types of information on facility status, radioactive releases, and recommended protective actions, if necessary, to be given to offsite response organizations and to the NRC.

(x) Training. A brief description of the frequency, performance objectives and plans for the training that the licensee will provide workers on how to respond to an emergency including any special instructions and orientation tours the licensee would offer to fire, police, medical and other emergency personnel. The training shall familiarize personnel with site-specific emergency procedures. Also, the training shall thoroughly prepare site personnel for their responsibilities in the event of accident scenarios postulated as most probable for the specific site, including the use of team training for such scenarios.

(xi) Safe shutdown. A brief description of the means of restoring the facility to a safe condition after an accident.

(xii) Exercises. Provisions for conducting quarterly communications checks with offsite response organizations and biennial onsite exercises to test response to simulated emergencies. Quarterly communications checks with offsite response organizations must include the check and update of all necessary telephone numbers. The licensee shall invite offsite response organizations to participate in the biennial exercises. Participation of offsite response organizations in biennial exercises although recommended is not required. Exercises must use accident scenarios postulated as most probable for the specific site and the scenarios shall not be known to most exercise participants. The licensee shall critique each exercise using individuals not having direct implementation responsibility for the plan. Critiques of exercises must evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response. Deficiencies found by the critiques must be corrected.

(xiii) Hazardous chemicals. A certification that the applicant has met its responsibilities under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Pub. L. 99-499, if applicable to the applicant's activities at the proposed place of use of the special nuclear material.

(4) The licensee shall allow the offsite response organizations expected to respond in case of an accident 60 days to comment on the licensee's emergency plan before submitting it to NRC. The licensee shall provide any comments received within the 60 days to the NRC with the emergency plan.

(j)(1) Each application for a license to possess or use at any site or contiguous sites subject to control by the licensee uranium-235 (contained in uranium enriched to 20 percent or more in the uranium-235 isotope), uranium-233, or plutonium alone or in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium) other than a license for possession or use of this material in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter, must include a licensee safeguards contingency plan for dealing with threats, thefts, and radiological sabotage, as defined in part 73 of this chapter, relating to nuclear facilities licensed under part 50 of this chapter or to the possession of special nuclear material licensed under this part.

(2) Each application for such a license must include the first four categories of information contained in the applicant's safeguards contingency plan. (The first four categories of information, as set forth in appendix C to part 73 of this chapter, are Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix.) The fifth category of information, Procedures, does not have to be submitted for approval.

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[1] These reporting requirements do not supperceed or release licensees of complying with the requirements under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Pub. L. 99-499 or other state or federal reporting requirements.

(3) The licensee shall retain a copy of this safeguards contingency plan as a record until the Commission terminates each license obtained by this application or any application for renewal of a license and retain each change to the plan as a record for three years after the date of the change.

(k) Each application for a license to possess or use at any site or contiguous sites subject to control by the licensee special nuclear material of moderate strategic significance or 10 kg or more of special nuclear material of low strategic significance as defined under § 73.2 of this chapter, other than a license for possession or use of this material in the operation of a nuclear power reactor licensed pursuant to part 50 of this chapter, must include a physical security plan that demonstrates how the applicant plans to meet the requirements of § 73.67(d), (e), (f), and (g), as appropriate, of this chapter. The licensee shall retain a copy of this physical security plan as a record for the period during which the licensee possesses the appropriate type and quantity of special nuclear material requiring this record under each license and each change to the plan for three years after the change.

(l) Each applicant for a license to possess, use, transport, or deliver to a carrier for transport formula quantities of strategic special nuclear material, who prepares a physical security, safeguards contingency, or guard qualification and training plan shall protect these plans and other related Safeguards Information against unauthorized disclosure in accordance with the requirements of § 73.21 of this chapter.

[21 FR 764, Feb. 3, 1956]

Editorial Note: For Federal Register citations affecting § 70.22, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 70.23 Requirements for the approval of applications.

(a) An application for a license will be approved if the Commission determines that:

(1) The special nuclear material is to be used for the conduct of research or development activities of a type specified in section 31 of the Act,[1] in activities licensed by the Commission under section 103 or 104 of the Act, or for such other uses as the Commission determines to be appropriate to carry out the purposes of the Act;

(2) The applicant is qualified by reason of training and experience to use the material for the purpose requested in accordance with the regulations in this chapter;

(3) The applicant's proposed equipment and facilities are adequate to protect health and minimize danger to life or property;

(4) The applicant's proposed procedures to protect health and to minimize danger to life or property are adequate;

(5) Where the nature of the proposed activities is such as to require consideration by the Commission, that the applicant appears to be financially qualified to engage in the proposed activities in accordance with the regulations in this part;

(6) Where the applicant is required to submit a summary description of the fundamental material controls provided in his procedures for the control of and accounting for special nuclear material pursuant to § 70.22(b)(2), the applicant's proposed controls are adequate;

(7) Where the proposed activity is processing and fuel fabrication, scrap recovery, conversion of uranium hexa-

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[1] The types of research and development activities specified in section 31 are those relating to:

(1) Nuclear processes;

(2) The theory and production of atomic energy, including processes, materials, and devices related to such production;

(3) Utilization of special nuclear material and radioactive material for medical, biological, agricultural, health or military purposes;

(4) Utilization of special nuclear material, atomic energy, and radioactive material and processes entailed in the utilization or production of atomic energy or such material for all other purposes, including industrial use, the generation of usable energy, and the demonstration of the practical value of utilization or production facilities for industrial or commercial purposes; and

(5) The protection of health and the promotion of safety during research and production activities.

fluoride, or any other activity which the Commission determines will significantly affect the quality of the environment, the Director of Nuclear Material Safety and Safeguards or his designee, before commencement of construction of the plant or facility in which the activity will be conducted, on the basis of information filed and evaluations made pursuant to subpart A of part 51 of this chapter, has concluded, after weighing the environmental, economic, technical, and other benefits against environmental costs and considering available alternatives, that the action called for is the issuance of the proposed license, with any appropriate conditions to protect environmental values. Commencement of construction prior to such conclusion shall be grounds for denial to possess and use special nuclear material in such plant or facility. As used in this paragraph the term "commencement of construction" means any clearing of land, excavation, or other substantial action that would adversely affect the environment of a site. The term does not mean site exploration, necessary roads for site exploration, borings to determine foundation conditions, or other preconstruction monitoring or testing to establish background information related to the suitability of the site or the protection of environmental values.

(8) Where the proposed activity is the operation of a plutonium processing and fuel fabrication plant, construction of the principal structures, systems, and components approved pursuant to paragraph (b) of this section has been completed in accordance with the application;

(9) Where the applicant is required to submit a plan for physical protection of special nuclear material in transit pursuant to § 70.22(g), of this chapter, the applicant's plan is adequate;

(10) Where the applicant is required to submit a physical security plan pursuant to § 70.22(h), the applicant's proposed plan is adequate;

(11) Where the proposed activity is processing and fuel fabrication, scrap recovery, or conversion of uranium hexafluoride, the applicant's proposed emergency plans are adequate.

(b) The Commission will approve construction of the principal structures, systems, and components of a plutonium processing and fuel fabrication plant on the basis of information filed pursuant to § 70.22(f) when the Commission has determined that the design bases of the principal structures, systems, and components, and the quality assurance program provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents.[3] Failure to obtain Commission approval prior to beginning of such construction may be grounds for denial of a license to possess and use special nuclear material in a plutonium processing and fuel fabrication plant.

[36 FR 17574, Sept. 2, 1971, as amended at 37 FR 5749, Mar. 21, 1972; 38 FR 30534, 30538, Nov. 6, 1973; 39 FR 26286, July 18, 1974; 42 FR 17126, Mar. 31, 1977; 43 FR 6924, Feb. 17, 1978; 49 FR 9406, Mar. 12, 1984; 54 FR 14064, Apr. 7, 1989]

§ 70.24 Criticality accident requirements.

(a) Each licensee authorized to possess special nuclear material in a quantity exceeding 700 grams of contained uranium-235, 520 grams of uranium-233, 450 grams of plutonium, 1,500 grams of contained uranium-235 if no uranium enriched to more than 4 percent by weight of uranium-235 is present, 450 grams of any combination thereof, or one-half such quantities if massive moderators or reflectors made of graphite, heavy water or beryllium may be present, shall maintain in each area in which such licensed special nuclear material is handled, used, or stored, a monitoring system meeting the requirements of either paragraph (a)(1) or (a)(2), as appropriate, and using gamma- or neutron-sensitive radiation detectors which will energize clearly audible alarm signals if accidental criticality occurs. This section is not intended to require underwater monitoring when special nuclear material is handled or stored beneath water shielding or to require monitoring systems when special nuclear material is being transported when packaged in accordance with the requirements of part 71 of this chapter.

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[3] The criteria in appendix B of part 50 of this chapter will be used by the Commission in determining the adequacy of the quality assurance program.

(1) The monitoring system shall be capable of detecting a criticality that produces an absorbed dose in soft tissue of 20 rads of combined neutron and gamma radiation at an unshielded distance of 2 meters from the reacting material within one minute. Coverage of all areas shall be provided by two detectors.

(2) Persons licensed prior to December 6, 1974, to possess special nuclear material subject to this section may maintain a monitoring system capable of detecting a criticality which generates radiation levels of 300 rems per hour one foot from the source of the radiation. The monitoring devices in the system shall have a preset alarm point of not less than 5 millirems per hour (in order to avoid false alarms) nor more than 20 millirems per hour. In no event may any such device be farther than 120 feet from the special nuclear material being handled, used, or stored; lesser distances may be necessary to meet the requirements of this paragraph (a)(2) on account of intervening shielding or other pertinent factors.

(3) The licensee shall maintain emergency procedures for each area in which this licensed special nuclear material is handled, used, or stored to ensure that all personnel withdraw to an area of safety upon the sounding of the alarm. These procedures must include the conduct of drills to familiarize personnel with the evacuation plan, and designation of responsible individuals for determining the cause of the alarm, and placement of radiation survey instruments in accessible locations for use in such an emergency. The licensee shall retain a copy of current procedures for each area as a record for as long as licensed special nuclear material is handled, used, or stored in the area. The licensee shall retain any superseded portion of the procedures for three years after the portion is superseded.

(b) Each licensee authorized to possess special nuclear material in quantities in excess of those specified in paragraph (a) shall:

(1) Provide the means for identifying quickly which individuals have received doses of 10 rads or more.

(2) Maintain facilities and supplies at the site for decontamination of personnel, arrangements for the services of a physician and other medical personnel qualified to handle radiation emergencies, arrangements for transportation of injured or contaminated individuals to treatment facilities, and arrangements for treatment of individuals at treatment facilities outside the site boundary.

(c) Holders of licenses for construction or operation of a nuclear reactor issued pursuant to part 50 of this chapter, except critical assembly reactors, are exempt for the requirements of paragraph (b) of this section with respect to special nuclear material used or to be used in the reactor.

(d) Any licensee who believes that good cause exists why he should be granted an exemption in whole or in part from the requirements of this section may apply to the Commission for such exemption. Such application shall specify his reason for the relief requested.

[39 FR 39021, Nov. 5, 1974, as amended at 41 FR 31522, July 29, 1976; 53 FR 19252, May 27, 1988]

§ 70.25 Financial assurance and recordkeeping for decommissioning.

(a) Each applicant for a specific license authorizing the possession and use of unsealed special nuclear material in quantities exceeding 10^5 times the applicable quantities set forth in appendix C to 10 CFR part 20 shall submit a decommissioning funding plan as described in paragraph (e) of this section. A decommissioning funding plan must also be submitted when a combination of isotopes is involved if R divided by 10^5 is greater than 1 (unity rule), where R is defined here as the sum of the ratios of the quantity of each isotope to the applicable value in appendix C.

(b) Each applicant for a specific license authorizing possession and use of unsealed special nuclear material in quantities specified in paragraph (d) of this section shall either—

(1) Submit a decommissioning funding plan as described in paragraph (e) of this section; or

(2) Submit a certification that financial assurance for decommissioning has been provided in the amount prescribed by paragraph (d) of this section using one of the methods described in paragraph (f) of this section. For an applicant, this certification may state that the appropriate assurance will be obtained after the application has been approved and the license issued but prior to the receipt of licensed material. As part of the certification, a copy of the financial instrument obtained to satisfy the requirements of paragraph (e) of this section is to be submitted to NRC.

(c)(1) Each holder of a specific license issued on or after July 27, 1990, which is of a type described in paragraph (a) or (b) of this section, shall provide financial assurance for decommissioning in accordance with the criteria set forth in this section.

(2) Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (a) of this section shall submit, on or before July 27, 1990, a decommissioning funding plan or certification of financial assurance for decommissioning in an amount at least equal to $750,000 in accordance with the criteria set forth in this section. If the licensee submits the certification of financial assurance rather than a decommissioning funding plan at this time, the licensee shall include a decommissioning funding plan in any application for license renewal.

(3) Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (b) of this section shall submit, on or before July 27, 1990, a certification of financial assurance for decommissioning or a decommissioning funding plan in accordance with the criteria set forth in this section.

(d) Table of required amounts of financial assurance for decommissioning by quantity of material.

greater than 10^4 but less than or equal to 10^5 times the applicable quantities of appendix C of part 20. (For a combination of isotopes, if R, as defined in § 70.25(a), divided by 10^4 is greater than 1 but R divided by 10^5 is less than or equal to 1.)	$750,000
greater than 10^3 but less than or equal to 10^4 times the applicable quantities of appendix C of part 20. (For a combination of isotopes, if R, as defined in § 70.25(a), divided by 10^3 is greater than 1 but R divided by 10^4 is less than or equal to 1.)	$150,000

(e) Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (f) of this section, including means of adjusting cost estimates and associated funding levels periodically over the life of the facility.

(f) Financial assurance for decommissioning must be provided by one or more of the following methods:

(1) Prepayment. Prepayment is the deposit prior to the start of operation into an account segregated from licensee assets and outside the licensee's administrative control of cash or liquid assets such that the amount of funds would be sufficient to pay decommissioning costs. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.

(2) A surety method, insurance, or other guarantee method. These methods guarantee that decommissioning costs will be paid should the licensee default. A surety method may be in the form of a surety bond, letter of credit, or line of credit. A parent company guarantee of funds for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in appendix A of 10 CFR part 30. A parent company guarantee may not be used in combination with other financial methods to satisfy the requirements of this section. Any surety method or insurance used to provide financial assurance for

decommissioning must contain the following conditions:

(i) The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless 90 days or more prior to the renewal date, the issurer notifies the Commission, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the Commission within 30 days after receipt of notification of cancellation.

(ii) The surety method or insurance must be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the Commission. An acceptable trustee includes an appropriate State or Federal government agency or an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(iii) The surety method or insurance must remain in effect until the Commission has terminated the license.

(3) An external sinking fund in which deposits are made at least annually, coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licenssee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provisions must be as stated in paragraph (f)(2) of this section.

(4) In the case of Federal, State, or local government licensees, a statement of intent containing a cost estimate for decommissioning or an amount based on the Table in paragraph (d) of this section, and indicating that funds for decommissioning will be obtained when necessary.

(g) Each person licensed under this part shall keep records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the Commission. If records of relevant information are kept for other purposes, reference to these records and their locations may be used. Information the Commission considers important to decommissioning consists of—

(1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations.

(2) As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.

(3) Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.

[53 FR 24053, June 27, 1988]

LICENSES

§ 70.31 Issuance of licenses.

(a) Upon a determination that an application meets the requirements of the act and of the regulations of the

Commission, the Commission will issue a license in such form and containing such conditions and limitations as it deems appropriate or necessary to effectuate the purposes of the act.

(b) [Reserved]

(c) Each license issued to a person for use of special nuclear material in activities in which special nuclear material will be produced shall (subject to the provisions of § 70.41(b)) be deemed to authorize such person to receive title to, own, acquire, receive, possess, use, and transfer the special nuclear material produced in the course of such authorized activities.

(d) No license will be issued by the Commission to any person within the United States if the Commission finds that the issuance of such license would be inimical to the common defense and security or would constitute an unreasonable risk to the health and safety of the public.

[21 FR 764, Feb. 3, 1956, as amended at 32 FR 2563, Feb. 7, 1967; 32 FR 4056, Mar. 15, 1967; 43 FR 6925, Feb. 17, 1978]

§ 70.32 Conditions of licenses.

(a) Each license shall contain and be subject to the following conditions:

(1) [Reserved]

(2) No right to the special nuclear material shall be conferred by the license except as defined by the license;

(3) Neither the license nor any right under the license shall be assigned or otherwise transferred in violation of the provisions of the Act;

(4) All special nuclear material shall be subject to the right of recapture or control reserved by section 108 and to all other provisions of the Act;

(5) No special nuclear material may be used in any utilization or production facility except in accordance with the provisions of the Act;

(6) The licensee shall not use the special nuclear material to construct an atomic weapon or any component of an atomic weapon;

(7) Except to the extent that the indemnification and limitation of liability provisions of part 140 of this chapter apply, the licensee will hold the United States and the Department harmless from any damages resulting from the use or possession of special nuclear material leased from the Department by the licensee;

(8) The license shall be subject to and the licensee shall observe, all applicable rules, regulations and orders of the Commission.

(9)(i) Each licensee shall notify the appropriate NRC Regional Administrator, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any Chapter of Title 11 (Bankruptcy) of the United States Code by or against:

(A) The licensee;

(B) An entity (as that term is defined in 11 U.S.C. 101(14)) controlling the licensee or listing the license or licensee as property of the estate; or

(C) An affiliate (as that term is defined in 11 U.S.C. 101(a)) of the licensee.

(ii) This notification must indicate:

(A) The bankruptcy court in which the petition for bankruptcy was filed; and

(B) The date of the filing of the petition.

(b) The Commission may incorporate in any license such additional conditions and requirements with respect to the licensee's ownership, receipt, possession, use, and transfer of special nuclear material as it deems appropriate or necessary in order to:

(1) Promote the common defense and security;

(2) Protect health or to minimize danger to life or property;

(3) Protect Restricted Data;

(4) Guard against the loss or diversion of special nuclear material;

(5) Require such reports and the keeping of such records, and to provide for such inspections, of activities under the license as may be necessary or appropriate to effectuate the purposes of the act and regulations thereunder.

(c)(1) Each license authorizing the possession and use at any one time and location of special nuclear material in a quantity exceeding one effective kilogram, except for use as sealed sources and those uses involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter, and those involved in a waste disposal operation shall contain and be subject to a condition requiring the licensee to maintain and follow:

(i) The program for control and accounting for special nuclear material and fundamental nuclear material controls described pursuant to §§ 70.22(b), 70.58(l), 74.31(b), or 74.51(c)(1) of this chapter, as appropriate;

(ii) The measurement control program for special nuclear material control and accounting described pursuant to §§ 70.57(c), 74.31(b), or 74.59(e) of this chapter, as appropriate; and

(iii) Such other material control procedures as the Commission determines to be essential for the safeguarding of special nuclear material and providing that the licensee shall make no change which would decrease the effectiveness to the material control and accounting program prepared pursuant to §§ 70.22(b), 70.58(l), 70.51(g), 74.31(b), or 74.51(c)(1) of this chapter, and the measurement control program prepared pursuant to §§ 70.57(c), 74.31(b), or 74.59(e) of this chapter without the prior approval of the Commission. A licensee desiring to make such changes shall submit an application for amendment to its license pursuant to § 70.34.

(2) The licensee shall maintain records of changes to the material control and accounting program made without prior Commission approval for a period of 5 years from the date of the change. Licensees located in all five Regions as indicated in appendix A of part 73 of this chapter, shall furnish to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, a report containing a description of each change within:

(i) Two months of the change if it pertains to uranium-233, uranium-235 contained in uranium enriched 20 percent or more in the uranium-235 isotope, or plutonium, except plutonium containing 80 percent or more by weight of the isotope Pu-238, and

(ii) Six months of the change if it pertains to uranium enriched less than 20 percent in the uranium-235 isotope, or plutonium containing 80 percent or more by weight of the isotope Pu-238.

(d) The licensee shall make no change which would decrease the effectiveness of the plan for physical protection of special nuclear material in transit pre-pared pursuant to § 70.22(g) or § 73.20(c) of this chapter without the prior approval of the Commission. A licensee desiring to make such changes shall submit an application for a change in the technical specifications incorporated in his or her license, if any, or for an amendment to the license pursuant to § 50.90 or §70.34 of this chapter, as appropriate. The licensee may make changes to the plan for physical protection of special nuclear material without prior Commission approval if these changes do not decrease the effectiveness of the plan. The licensee shall retain a copy of the plan as a record for the period during which the licensee possesses a formula quantity of special nuclear material requiring this record under each license and each change to the plan for three years from the effective date of the change. A report containing a description of each change must be furnished the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, with a copy to the appropriate NRC Regional Office shown in appendix A to part 73 of this chapter within two months after the change.

(e) The licensee shall make no change which would decrease the effectiveness of a security plan prepared pursuant to §§ 70.22(h), 70.22(k), or 73.20(c) without the prior approval of the Commission. A licensee desiring to make such a change shall submit an application for an amendment to its license pursuant to § 70.34. The licensee shall maintain records of changes to the plan made without prior Commission approval, for three years from the effective date of the change, and shall furnish to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, with a copy to the appropriate NRC Regional Office shown in appendix A to part 73 of this chapter, a report containing a description of each change within two months after the change is made.

(f) [Reserved]

g) The licensee shall prepare and
intain safeguards contingency plan
cedures in accordance with appen-
C to part 73 of this chapter for ef-
ting the actions and decisions con-
ned in the Responsibility Matrix of
safeguard contingency plan. The li-
see shall retain a copy of the safe-
rds contingency plan procedures as
ecord for the period during which
licensee possesses the appropriate
e and quantity of special nuclear
erial requiring this record under
h license for which the procedures
e developed and each change to
plan for three years from the ef-
tive date of the change. The licens-
shall make no change that would
rease the safeguards effectiveness
he first four categories of informa-
a (Background, Generic Planning
e, Licensee Planning Base, and Re-
nsibility Matrix) contained in any
nsee safeguards contingency plan
pared pursuant to §§ 70.22(g),
22(j), 73.30(g), or 73.40 of this chap-
without the prior approval of the
nmission. A licensee desiring to
ke such a change shall submit an
lication for an amendment to its li-
se pursuant to § 70.34. The licensee
y make changes to the licensee
eguards contingency plan without
or Commission approval if the
nges do not decrease the safe-
rds effectiveness of the plan. The
nsee shall maintain each change to
plan made without prior approval
a record during the period for
ich possession of a formula quanti-
of special nuclear material is au-
rized under a license and retain the
erseded material for three years
m the effective date of the change
d shall furnish a report containing a
cription of each change within 60
ys after the change is made to the
gional Administrator of the appro-
ate NRC Regional Office specified
appendix A to part 73 of this chap-
, with a copy to the Director of Nu-
ar Material Safety and Safeguards.

h) [Reserved]

i) Licensees required to submit
ergency plans in accordance with
0.22(i) shall follow the emergency
an approved by the Commission.
e licensee may change the approved
an without Commission approval if the changes do not decrease the effectiveness of the plan. The licensee shall furnish the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, with a copy to the appropriate NRC Regional Office specified in appendix D, part 20 of this chapter and affected offsite response organizations, a copy of each change within six months after the change is made. Proposed changes that decrease the effectiveness of the approved emergency plan may not be implemented without prior application to and prior approval by the Commission.

(j) Each licensee who possesses a formula quantity of strategic special nuclear material, or who transports, or delivers to a carrier for transport, a formula quantity of strategic special nuclear material or more than 100 grams of irradiated reactor fuel shall ensure that physical security, safeguards contingency, and guard qualification and training plans and other related Safeguards Information are protected against unauthorized disclosure in accordance with the requirements of § 73.21 of this chapter.

[21 FR 764, Feb. 3, 1956]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 70.32, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 70.33 Renewal of licenses.

(a) Applications for renewal of a license should be filed in accordance with §§ 70.21 and 70.22. Information contained in previous applications, statements or reports filed with the Commission under the license may be incorporated by reference: *Provided*, That such references are clear and specific.

(b) In any case in which a licensee, not less than thirty (30) days prior to expiration of his existing license, has filed an application in proper form for renewal of a license, such existing license shall not expire until the application for a renewal has been finally determined by the Commission.

§ 70.34 Amendment of licenses.

Applications for amendment of a license shall be filed in accordance with

§ 70.21(a) and shall specify the respects in which the licensee desires his license to be amended and the grounds for such amendment.

§ 70.35 Commission action on applications to renew or amend.

In considering an application by a licensee to renew or amend his license, the Commission will apply the criteria set forth in § 70.23.

§ 70.36 Inalienability of licenses.

No license granted under the regulations in this part and no right to possess or utilize special nuclear material granted by any license issued pursuant to the regulations in this part shall be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person unless the Commission shall after securing full information, find that the transfer is in accordance with the provisions of the Act, and shall give its consent in writing.

[21 FR 764, Feb. 3, 1956, as amended at 35 FR 11461, July 17, 1970]

§ 70.37 Disclaimer of warranties.

Neither the Government nor the Commission makes any warranty or other representation that special nuclear material (a) will not result in injury or damage when used for purposes approved by the Commission, (b) will accomplish the results for which it is requested and approved by the Commission, or (c) is safe for any other use.

§ 70.38 Expiration and termination of licenses.

(a) Except as provided in § 70.33(b) and paragraph (e) of this section, each specific license expires at the end of the day, in the month and year stated in the license.

(b) Each licensee shall notify the Commission promptly, in writing under § 70.5, and request termination of the license when the licensee decides to terminate all activities involving materials authorized under the license. This notification and request for termination of the license must include the reports and information specified in paragraphs (c)(1)(iv) and (v) of this section and a plan for completion of decommissioning if required by paragraph (c)(2) of this section or by license condition.

(c)(1) If a licensee does not submit an application for license under § 70.33, the licensee shall on or before the expiration date specified in the license—

(i) Terminate use of special nuclear material;

(ii) Remove radioactive contamination to the extent practicable except for those procedures covered by paragraph (c)(2)(i) of this section;

(iii) Properly dispose of special nuclear material;

(iv) Submit a completed form NRC-314, which certifies information concerning the disposition of materials; and

(v) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee demonstrates that the premises are suitable for release for unrestricted use in some other manner. The licensee shall, as appropriate—

(A) Report levels of radiation in units of microrads per hour of beta and gamma radiation at one centimeter and gamma radiation at one meter from surfaces, and report levels of radioactivity, including alpha, in units of disintegrations per minute (or microcuries) per 100 square centimeters removable and fixed for surfaces, microcuries per milliliter for water, and picocuries per gram for solids such as soils or concrete; and

(B) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.

(2)(i) In addition to the information required under paragraphs (c)(1) (iv) and (v) of this section, the licensee shall submit a plan for completion of decommissioning if the procedures necessary to carry out decommissioning have not been previously approved by the NRC and could increase potential health and safety impacts to workers or to the public such as in any of the following cases:

) Procedures would involve tech-
ues not applied routinely during
nup or maintenance operations; or

) Workers would be entering areas
normally occupied where surface
tamination and radiation levels are
ificantly higher than routinely en-
nterd during operation; or

) Procedures could result in sig-
cantly greater airborne concentra-
s of radioactive materials than are
ent during operation; or

) Procedures could result in sig-
cantly greater releases of radioac-
material to the environment than
e associated with operation.

) Procedures with potential health
safety impacts may not be carried
prior to approval of the decommis-
ing plan.

i) The proposed decommissioning
, if required by paragraph (c)(2)(i)
his section or by license condition,
t include—

) Description of planned decom-
ioning activities;

) Description of methods used to
re protection of workers and the
ronment against radiation hazards
ng decommissioning;

) A description of the planned
l radiation survey; and

) An updated detailed cost esti-
e for decommissioning, comparison
hat estimate with present funds
aside for decommissioning, and
for assuring the availability of
quate funds for completion of de-
missioning.

) A description of the physical se-
ty plan and material control and
ounting plan provisions in place
ing decommissioning.

v) The proposed decommissioning
will be approved by the Commis-
if the information therein demon-
tes that the decommissioning will
completed as soon as is reasonable
that the health and safety of
kers and the public will be ade-
tely protected.

) Upon approval of the decommis-
ning plan by the Commission, the
nsee shall complete decommission-
in accordance with the approved
n. As a final step in decommission-
, the licensee shall again submit the
ormation required in paragraph
1)(v) of this section and shall certify the disposition of accumulated wastes from decommissioning.

(d) If the information submitted under paragraphs (c)(1)(v) or (c)(3) of this section does not adequately demonstrate that the premises are suitable for release for unrestricted use, the Commission will inform the licensee of the appropriate further actions required for termination of license.

(e) Each specific license continues in effect, beyond the expiration date if necessary, with respect to possession of residual special nuclear material present as contamination until the Commission notifies the licensee in writing that the license is terminated. During this time, the license shall—

(1) Limit actions involving special nuclear material to those related to decommissioning; and

(2) Continue to control entry to restricted areas until they are suitable for release for unrestricted use and the Commission notifies the licensee in writing that the license is terminated.

(f) Specific licenses will be terminated by written notice to the licensee when the Commission determines that—

(1) Special nuclear material has been properly disposed;

(2) Reasonable effort has been made to eliminate residual radioactive contamination, if present, and

(3) (i) A radiation survey has been performed which demonstrates that the premises are suitable for release for unrestricted use; or

(ii) Other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release for unrestricted use.

[53 FR 24054, June 27, 1988]

§ 70.39 Specific licenses for the manufacture or initial transfer of calibration or reference sources.

(a) An application for a specific license to manufacture or initially transfer calibration or reference sources containing plutonium, for distribution to persons generally licensed under § 70.19, will be approved if:

(1) The applicant satisfies the general requirements of § 70.23.

(2) The applicant submits sufficient information regarding each type of calibration or reference source pertinent to evaluation of the potential radiation exposure, including:

(i) Chemical and physical form and maximum quantity of plutonium in the source;

(ii) Details of construction and design;

(iii) Details of the method of incorporation and binding of the plutonium in the source;

(iv) Procedures for and results of prototype testing of sources, which are designed to contain more than 0.005 microcurie of plutonium, to demonstrate that the plutonium contained in each source will not be released or be removed from the source under normal conditions of use;

(v) Details of quality control procedures to be followed in manufacture of the source;

(vi) Description of labeling to be affixed to the source or the storage container for the source;

(vii) Any additional information, including experimental studies and tests, required by the Commission to facilitate a determination of the safety of the source.

(3) Each source will contain no more than 5 microcuries of plutonium.

(4) The Commission determines, with respect to any type of source containing more than 0.005 microcurie of plutonium, that:

(i) The method of incorporation and binding of the plutonium in the source is such that the plutonium will not be released or be removed from the source under normal conditions of use and handling of the source; and

(ii) The source has been subjected to and has satisfactorily passed the prototype tests prescribed by paragraph (a)(5) of this section.

(5) For any type of source which is designed to contain more than 0.005 microcurie of plutonium, the applicant has conducted prototype tests, in the order listed, on each of five prototypes of such source, which contains more than 0.005 microcurie of plutonium, as follows:

(i) *Initial measurement.* The quantity of radioactive material deposited on the source shall be measured by direct counting of the source.

(ii) *Dry wipe test.* The entire radioactive surface of the source shall be wiped with filter paper with the application of moderate finger pressure. Removal of radioactive material from the source shall be determined by measuring the radioactivity on the filter paper or by direct measurement of the radioactivity on the source following the dry wipe.

(iii) *Wet wipe test.* The entire radioactive surface of the source shall be wiped with filter paper, moistened with water, with the application of moderate finger pressure. Removal of radioactive material from the source shall be determined by measuring the radioactivity on the filter paper after it has dried or by direct measurement of the radioactivity on the source following the wet wipe.

(iv) *Water soak test.* The source shall be immersed in water at room temperature for a period of 24 consecutive hours. The source shall then be removed from the water. Removal of radioactive material from the source shall be determined by direct measurement of the radioactivity on the source after it has dried or by measuring the radioactivity in the residue obtained by evaporation of the water in which the source was immersed.

(v) *Dry wipe test.* On completion of the preceding tests in paragraphs (a)(5)(i) through (iv) of this section, the dry wipe test described in paragraph (a)(5)(ii) of this section shall be repeated.

(vi) *Observations.* Removal of more than 0.005 microcurie of radioactivity in any test prescribed by this paragraph shall be cause for rejection of the source design. Results of prototype tests submitted to the Commission shall be given in terms of radioactivity in microcuries and percent of removal from the total amount of radioactive material deposited on the source.

(b) Each person licensed under this section shall affix to each source, or storage container for the source, a label which shall contain sufficient information relative to safe use and storage of the source and shall include the following statement or a substantially

ilar statement which contains the
rmation called for in the following
ement.[1]

e receipt, possession, use and transfer
his source, Model ——, Serial No. ——,
subject to a general license and the reg-
ions of the United States Nuclear Regu-
ry Commission or of a State with which
Commission has entered into an agree-
t for the exercise of regulatory author-
Do not remove this label.

AUTION—RADIOACTIVE MATERIAL—THIS
OURCE CONTAINS PLUTONIUM. DO NOT
OUCH RADIOACTIVE PORTION OF THIS
OURCE.

(Name of Manufacturer or Initial
Transferor)

) Each person licensed under this
ion shall perform a dry wipe test
n each source containing more
n 0.1 microcurie of plutonium prior
ransferring the source to a general
nsee under § 70.19. This test shall
erformed by wiping the entire ra-
ctive surface of the source with a
r paper with the application of
lerate finger pressure. The radioac-
y on the paper shall be measured
using radiation detection instru-
tation capable of detecting 0.005
rocurie of plutonium. If any such
discloses more than 0.005 micro-
e of radioactive material, the
ce shall be deemed to be leaking
osing plutonium and shall not be
sferred to a general licensee under
.19.

FR 5884, May 5, 1964, as amended at 32
2563, Feb. 7, 1967; 38 FR 1272, Jan. 11,
; 40 FR 8792, Mar. 3, 1975; 42 FR 43966,
. 1, 1977; 43 FR 6925, Feb. 17, 1978]

UISITION, USE AND TRANSFER OF SPECIAL NUCLEAR MATERIAL, CREDITORS' RIGHTS

41 Authorized use of special nuclear material.

) Each licensee shall confine his
session and use of special nuclear
erial to the locations and purposes
horized in his license. Except as
erwise provided in the license, each
nse issued pursuant to the regulations in this part shall carry with it the right to receive title to, own, acquire, receive, possess and use special nuclear material. Preparation for shipment and transport of special nuclear material shall be in accordance with the provisions of part 71 of this chapter.

(b) The possession, use and transfer of any special nuclear material produced by a licensee, in connection with or as a result of use of special nuclear material received under his license, shall be subject to the provisions of the license and the regulations in this part.

[21 FR 764, Feb. 3, 1956, as amended at 38 FR 33970, Dec. 10, 1973; 43 FR 6925, Feb. 17, 1978]

§ 70.42 Transfer of special nuclear material.

(a) No licensee shall transfer special nuclear material except as authorized pursuant to this section.

(b) Except as otherwise provided in his license and subject to the provisions of paragraphs (c) and (d) of this section, any licensee may transfer special nuclear material:

(1) To the Department;

(2) To the agency in any Agreement State which regulates radioactive materials pursuant to an agreement with the Commission or the Atomic Energy Commission under section 274 of the Act, if the quantity transferred is not sufficient to form a critical mass;

(3) To any person exempt from the licensing requirements of the Act and regulations in this part, to the extent permitted under such exemption;

(4) To any person in an Agreement State, subject to the jurisdiction of that State, who has been exempted from the licensing requirements and regulations of that State, to the extent permitted under such exemption;

(5) To any person authorized to receive such special nuclear material under terms of a specific license or a general license or their equivalents issued by the Commission or an Agreement State;

(6) To any person abroad pursuant to an export license issued under part 110 of this chapter; or

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ources generally licensed under this sec-
prior to January 19, 1975 may bear
ls authorized by the regulations in
ct on January 1, 1975.

(7) As otherwise authorized by the Commission in writing.

(c) Before transferring special nuclear material to a specific licensee of the Commission or an Agreement State or to a general licensee who is required to register with the Commission or with an Agreement State prior to receipt of the special nuclear material, the licensee transferring the material shall verify that the transferee's license authorizes receipt of the type, form, and quantity of special nuclear material to be transferred.

(d) The following methods for the verification required by paragraph (c) of this section are acceptable:

(1) The transferor may have in his or her possession, and read, a current copy of the transferee's specific license or registration certificate. The transferor shall retain a copy of each license or certificate for three years from the date that is was obtained.

(2) The transferor may have in its possession a written certification by the transferee that the transferee is authorized by license or registration certificate to receive the type, form, and quantity of special nuclear material to be transferred, specifying the license or registration certificate number, issuing agency, and expiration date. The transferor shall retain the written certification as a record for three years from the date of receipt of the certification;

(3) For emergency shipments the transferor may accept oral certification by the transferee that he or she is authorized by license or registration certification to receive the type, form, and quantity of special nuclear material to be transferred, specifying the license or registration certificate number, issuing agency, and expiration date, provided that the oral certification is confirmed in writing within ten days. The transferor shall retain the written confirmation of the oral certification for three years from the date of receipt of the confirmation;

(4) The transferor may obtain other sources of information compiled by a reporting service from official records of the Commission or the licensing agency of an Agreement State as to the identity of licensees and the scope and expiration dates of licenses and registrations. The transferor shall retain the compilation of information as a record for three years from the date that it was obtained; or

(5) When none of the methods of verification described in paragraphs (d) (1) to (4) of this section are readily available or when a transferor desires to verify that information received by one of these methods is correct or up-to-date, the transferor may obtain and record confirmation from the Commission or the licensing agency of an Agreement State that the transferee is licensed to receive the special nuclear material. The transferor shall retain the record of confirmation for three years from the date the record is made.

[38 FR 33970, Dec. 10, 1973, as amended at 40 FR 8792, Mar. 3, 1975; 43 FR 6925, Feb. 21, 1978; 53 FR 19253, May 27, 1988]

§ 70.44 Creditor regulations.

(a) Pursuant to section 184 of the Act, the Commission consents, without individual application, to the creation of any mortgage, pledge, or other lien upon any special nuclear material, not owned by the United States, which is subject to licensing: *Provided:*

(1) That the rights of any creditor so secured may be exercised only in compliance with and subject to the same requirements and restrictions as would apply to the licensee pursuant to the provisions of the license, the Atomic Energy Act of 1954, as amended, and regulations issued by the Commission pursuant to said Act; and

(2) That no creditor so secured may take possession of the special nuclear material pursuant to the provisions of this section prior to either the issuance of a license by the Commission authorizing such possession or the transfer of a license pursuant to § 70.36.

(b) Nothing contained in this section shall be deemed to affect the means of acquiring, or the priority of, any tax lien or other lien provided by law.

(c) As used in this section, *creditor* includes, without implied limitation, the trustee under any mortgage, pledge, or lien on special nuclear material made to secure any creditor, any trustee or receiver of the special nuclear material appointed by a court of competent jurisdiction in any action brought for the benefit of any creditor secured by such mortgage, pledge, or lien, any purchaser of such special nuclear material at the sale thereof upon foreclosure of such mortgage, pledge, or lien or upon exercise of any power of sale contained therein, or any assignee of any such purchaser.

[32 FR 2563, Feb. 7, 1967, as amended at 35 FR 11461, July 17, 1970]

SPECIAL NUCLEAR MATERIAL CONTROL, RECORDS, REPORTS AND INSPECTIONS

§ 70.51 Material balance, inventory, and records requirements.

(a) As used in this section:

(1) *Additions to material in process* means receipts that are opened except for receipts opened only for sampling and subsequently maintained under tamper-safing, and opened sealed sources.

(2) *Enrichment category* for uranium-235 means high-enriched uranium—that uranium whose isotope content is 20 percent or more uranium-235 by weight, and low-enriched uranium—that uranium whose isotope content is less than 20 percent uranium-235 by weight.

(3) *Element* means uranium or plutonium.

(4) *Fissile isotope* means (i) uranium-233 or (ii) uranium-235 by enrichment category.

(5) *Limit of error* means the uncertainty component used in constructing a 95 percent confidence interval associated with a quantity after any recognized bias has been eliminated or its effect accounted for.

(6) *Material balance* means a determination of material unaccounted for (MUF) by subtracting ending inventory (EI) plus removals (R) from beginning inventory (BI) plus additions to inventory (A). Mathematically,

$$MUF = BI + A - EI - R$$

(7) *Material in process* means any special nuclear material possessed by the licensee except in unopened receipts, sealed sources, and ultimate product maintained under tamper-safing.

(8) *Physical inventory* means determination on a measured basis of the quantity of special nuclear material on hand at a given time. The methods of physical inventory and associated measurements will vary depending on the material to be inventoried and the process involved.[1]

(9) *Removals from material in process* includes measured quantities of special nuclear material disposed of as discards, encapsulated as a sealed source, or in other ultimate product placed under tamper-safing or shipped offsite.

(10) *Tamper-safing* means the use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previously made measurements of special nuclear material within the container or vault.

(11) *Ultimate product* means any special nuclear material in the form of a product that would not be further processed at that licensed location.

(12) *Unopened receipts* means receipts not opened by the licensee, including receipts of sealed sources, and receipts opened only for sampling and subsequently maintained under tamper-safing.

(b) Licensees subject to the recordkeeping requirements of §§ 74.31 and 74.59 of this chapter are exempt from the requirements of § 70.51(b)(1) through (5).

Otherwise:

(1) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all special nuclear material in his possession regardless of its origin or method of acquisition.

(2) Each record that is required by the regulations in this part or by license condition must be maintained and retained for the period specified by the appropriate regulation or license condition. If a retention period is not otherwise specified by regulation or license condition, the licensee shall retain the record until the Commission terminates each license that

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[1] Criteria for physical inventories are set out in paragraph (f) of this section.

best copy available

authorizes the activity that is subject to the recordkeeping requirement.

(3) Each record of receipt, acquisition, or physical inventory of special nuclear material that must be maintained pursuant to paragraph (b)(1) of this section must be retained as long as the licensee retains possession of the material and for three years following transfer of such material.

(4) [Reserved]

(5) Each record of transfer of special nuclear material to other persons must be retained by the licensee who transferred the material until the Commission terminates the license authorizing the licensee's possession of the material. Each record required by paragraph (e)(1)(v) of this section must be retained for three years after it is made.

(6) Each record of disposal of special nuclear material must be retained until the Commission terminates each license that authorizes the activity that is subject to the recordkeeping requirement.

(c) Each licensee who is authorized to possess at any one time special nuclear material in a quantity exceeding one effective kilogram of special nuclear material shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for the special nuclear material in the licensee's possession under license. The licensee shall retain these procedures until the Commission terminates the license that authorizes possession of the material and retain any superseded portion of the procedures for three years after the portion is superseded.

(d) Except as required by paragraph (e) of this section, each licensee who is authorized to possess at any one time and location special nuclear material in a quantity totaling more than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, shall conduct a physical inventory of all special nuclear material in his possession under license at intervals not to exceed twelve months.

(e) Each licensee who is authorized to possess at any one time special nuclear material in a quantity exceeding one effective kilogram of strategic special nuclear material in irradiated fuel reprocessing operations or special nuclear material of moderate strategic significance and to use such special nuclear material for activities other than as sealed sources or those activities involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter or those involved in a waste disposal operation; or as reactor irradiated fuels involved in research, development, and evaluation programs in facilities other than irradiated fuel reprocessing plants, shall:

(1) Maintain procedures that include items listed in paragraphs (e)(1)(i), (ii), (iii), (iv), (v), (vi), and (vii) of this section and retain each record required in these paragraphs for three years after the record is made.

(i) Procedures for tamper-safing containers or vaults containing special nuclear material not in process, which include control of access to the devices and records of the date and time of application of each device to a container or vault; unique identification of each such item; inventory records showing the identity, location, and quantity of special nuclear material for all such items; and records of the source and disposition of all such items;

(ii) Records of the quantities of special nuclear material added to or removed from the process;

(iii) Inventory records for the quantity of special nuclear material in process;

(iv) Unique identification of items or containers containing special nuclear material in process; inventory records showing the identity, location, and quantity of special nuclear material for all such items; and records of the source and disposition of all such items;

(v) Documentation of all transfers of special nuclear material between material balance areas to show identity and quantity of special nuclear material transferred;

(vi) Requirements for authorized signatures on each document for transfer of special nuclear material between material balance areas; and

(vii) Means for control of and accounting for internal transfer documents.

(2) On or before May 6, 1974, and thereafter as necessary to comply with the requirements of paragraph (e)(3) of this section, perform a physical inventory of all special nuclear material in his possession in compliance with the criteria for physical inventories set forth in paragraph (f) of this section.

(3) Conduct physical inventories made in accordance with the criteria for physical inventories set forth in paragraph (f) of this section at intervals determined from the start of the beginning inventory to the start of the ending inventory not to exceed:

(i) 2 calendar months for plutonium except for plutonium containing 80 percent or more by weight of the isotope Pu-238, uranium-233 and for uranium enriched 20 percent or more in the isotope uranium-235 (except as provided in paragraph (e)(3)(ii) of this section); and

(ii) 6 calendar months for uranium enriched less than 20 percent in the isotope uranium-235; for plutonium, U-233 and high-enriched uranium in that portion of an irradiated-fuel reprocessing plant from the dissolver to the first vessel outside of the radiation shielded portion of the process; and for plutonium containing 80 percent or more by weight of the isotope Pu-238;

(4) Within 30 calendar days after the start of each ending physical inventory required by paragraph (e)(3) of this section:

(i) Calculate, for the material balance interval terminated by that inventory, the material unaccounted for (MUF) and its associated limit of error for each element and the fissile isotope for uranium contained in material in process;

(ii) Reconcile and adjust the book record of quantity of element and fissile isotope, as appropriate, to the results of the physical inventory;

(iii) Complete and maintain for a period of five years material balance records for each material balance showing the quantity of element and fissile isotope, as appropriate, in each component of the material balance, with the associated limit of error for the material unaccounted for both in terms of absolute quantity of element and fissile isotope and relative to additions to or removals from material in process for the interval, where results of limit of error calculations are recorded in sufficient detail to permit an evaluation of sources of error.

(iv) Complete and maintain for a period of five years a record summarizing the quantities of element and fissile isotope, as appropriate, for ending inventory of material in process, additions to material in process during the material balance interval and removals from the material in process during the material balance interval; and

(v) Complete and maintain for a period of five years a record summarizing the quantities of element and fissile isotope, as appropriate, in unopened receipts (including receipts opened only for sampling and subsequently maintained under tamper-safing), and ultimate products maintained under tamper-safing, or in the form of sealed sources;

(5) Establish and maintain a system of control and accountability such that the limits of error for any material unaccounted for (MUF) ascertained as a result of the material balances made pursuant to paragraph (e)(3) of this section do not exceed (i) 200 grams of plutonium or uranium-233, 300 grams of high enriched uranium or uranium-235 contained in high enriched uranium, or 9,000 grams of uranium-235 contained in low enriched uranium, (ii) those limits specified in the following table, or (iii) other limits authorized by the Commission pursuant to paragraph (e)(6) of this section:

Material Type	Limit of Error of MUF on Any Total Plant Inprocess Material Balance[1] Percent
Plutonium element or uranium-233 in a chemical reprocessing plant	1.0
Uranium element and fissile isotope in a reprocessing plant	0.7
Plutonium element, uranium-233, or high enriched uranium element and fissile isotope—all other	0.5
Low-enriched uranium element and fissile isotope—all other	0.5

[1] As a percentage of additions to or removals from material in process, whichever is greater.

Any licensee subject to this paragraph on December 6, 1973, who requests higher limits pursuant to paragraph (e)(6) of this section at the time he submits his program description under the provisions of paragraph (g) of this section is hereby authorized to operate at the higher limits until the application for license or amendment has been finally determined by the Commission;

(6) An applicant or a licensee subject to the requirements of paragraph (e) of this section may request limits higher than those specified in paragraph (e)(5) of this section. The requested higher limits shall be based on considerations such as the type and complexity of process, the number of unit operations, process throughput quantities, process recycle quantities, and the technology available and applicable to the control and accounting of the material in the process. The Commission will approve higher limits if the applicant demonstrates:

(i) That he has made reasonable efforts and cannot meet the limits of error of MUF specified in paragraph (e)(5) of this section; and

(ii) That he has initiated or will initiate a program to achieve improvements in his material control system so as to meet the limits specified in paragraph (e)(5) of this section.

(f) Each licensee subject to the requirements of paragraph (e) of this section shall:

(1) Establish physical inventory procedures to assure that:

(i) The quantity of special nuclear material associated with each item on inventory is a measured value;

(ii) Each item on inventory is listed and identified to assure that all items are listed and that no item is listed more than once;

(iii) Cutoff procedures for transfers and processing are established so that all quantities are inventoried and none are inventoried more than once;

(iv) Cutoff procedures for records and reports are established so that all transfers for the inventory and material balance interval and no others are included in the records; and

(v) Upon completion of the inventory, all book and inventory records, both total plant and material balance area, are reconciled with and adjusted to the physical inventory.

(2) Establish inventory procedures for sealed sources and containers or vaults containing special nuclear material that provide for:

(i) Identification and location of all such items;

(ii) Verification of the integrity of the tamper-safing devices for such items;

(iii) Reverification of identity and quantity of contained special nuclear material for each item not tamper-safed, or whose tamper-safing is found to have been compromised;

(iv) Verification of the correctness of the inventory records of identity and location for all such items; and

(v) Documentation in compliance with the requirements of paragraphs (f)(2)(i), (ii), (iii), and (iv) of this section. Each record documenting compliance with these requirements must be retained for three years after it is made.

(3) Establish inventory procedures for special nuclear material in process that provide for:

(i) Measurement of all quantities not previously measured by the licensee for element and fissile isotope; and

(ii) For all material whose content of element and fissile isotope has been previously measured by the licensee but for which the validity of such previously made measurements has not been assured by tamper-safing, verification of the quantity of contained element and fissile isotope by remeasurement.

(4) Conduct physical inventories according to written inventory instructions for each inventory which shall:

(i) Assign inventory duties and responsibilities;

(ii) Specify the extent to which each material balance area and process is to be shut down, cleaned out, and/or remain static; [3]

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[3] No process shutdown and/or cleanout for inventory is required if requirements with respect to MUF and the limit of error of MUF as specified in paragraph (e)(5)(ii) of this section are met using other inventory methods.

(iii) Identify the basis for accepting previously made measurements and their limits of error;

(iv) Designate measurements to be made for inventory purposes and the procedures for making such measurements; and

(v) Identify the means by which material on inventory will be listed to assure that each item is inventoried and that there is no duplication.

(g) Each licensee subject to the requirements of paragraph (e) of this section shall submit to the Atomic Energy Commission for approval by March 6, 1974, a full description of the program intended to be used to enable the licensee to comply with that paragraph and the requirements set forth in paragraph (f) of this section. This program shall be followed by the licensee after May 6, 1974.

(h) Each licensee who determines that the requirements of paragraph (e) of this section will require modifications of his plant or equipment costing $500,000 or more may, by March 6, 1974, apply to the Atomic Energy Commission for an extension of time, not to exceed six additional months, for compliance with those requirements. Each application for extension shall include a description of the modifications to be made, a statement of estimated associated costs with substantiating evidence, and a schedule of the dates when the modifications will be commenced and completed.

(i)(1) Records which must be maintained pursuant to this part may be the original or a reproduced copy or microform if such reproduced copy or microform is duly authenticated by authorized personnel and the microform is capable of producing a clear and legible copy after storage for the period specified by Commission regulations. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

(2) If there is a conflict between the Commission's regulations in this part, license condition, or other written Commission approval or authorization pertaining to the retention period for the same type of record, the retention period specified in the regulations in this part for such records shall apply unless the Commission, pursuant to § 70.14, has granted a specific exemption from the record retention requirements specified in the regulations in this part.

[38 FR 30544, Nov. 6, 1973, as amended at 38 FR 32784, Nov. 28, 1973; 41 FR 18303, May 3, 1976; 43 FR 6925, Feb. 17, 1978; 50 FR 7579, Feb. 25, 1985; 52 FR 10038, Mar. 30, 1987; 53 FR 19253, May 27, 1988]

§ 70.52 Reports of accidental criticality or loss or theft or attempted theft of special nuclear material.

(a) Each licensee shall notify the NRC Operations Center[1] within one hour after discovery of any case of accidental criticality or any loss, other than normal operating loss, of special nuclear material.

(b) Each licensee who possesses one gram or more of contained uranium-235, uranium-233, or plutonium shall notify the NRC Operations Center within one hour after discovery of any loss or theft or unlawful diversion of special nuclear material which the licensee is licensed to possess or any incident in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of such material.

(c) This notification must be made to the NRC Operations Center via the Emergency Notification System if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.21(g)(3) applies to all telephonic reports required by this section.

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[1] Commercial telephone number of the NRC Operations Center is (301) 951-0550.

(d) Reports required under § 73.71 need not be duplicated under the requirements of this section.

[52 FR 21657, June 9, 1987]

§ 70.53 Material status reports.

(a)(1) Each licensee who is authorized to possess at any one time and location special nuclear material in a quantity totaling more than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, shall complete and submit material balance reports as required by § 74.13(a)(1) of this chapter.

(2) Any licensee who is required to submit routine material status reports pursuant to § 75.35 of this chapter shall follow the requirements set out in § 74.13(a)(2) of this chapter.

(b) Each licensee subject to the requirements of § 70.51(e) shall follow the requirements set out in §§ 74.13(b) and 74.17(b) of this chapter.

[50 FR 7579, Feb. 25, 1985, as amended at 52 FR 19305, May 22, 1987]

§ 70.54 Nuclear material transfer reports.

(a) Each licensee who transfers and each licensee who receives special nuclear material shall follow the requirements set out in § 74.15(a) and (b) of this chapter.

(b) Any licensee who is required to submit inventory change reports on DOE/NRC Form-741 pursuant to § 75.34 of this chapter shall follow the requirements set out in § 74.15(c) of this chapter.

[50 FR 7579, Mar. 28, 1985]

§ 70.55 Inspections.

(a) Each licensee shall afford to the Commission at all reasonable times opportunity to inspect special nuclear material and the premises and facilities wherein special nuclear material is used, produced, or stored.

(b) Each licensee shall make available to the Commission for inspection, upon reasonable notice, records kept by the licensee pertaining to his receipt possession, use, acquisition, import, export, or transfer of special nuclear material.

(c)(1) In the case of fuel cycle facilities where nuclear reactor fuel is fabricated or processed each licensee shall upon request by the Director, Office of Nuclear Material Safety and Safeguards or the appropriate NRC Regional Administrator, provide rent-free office space for the exclusive use of Commission inspection personnel. Heat, air conditioning, light, electrical outlets and janitorial services shall be furnished by each licensee. The office shall be convenient to and have full access to the facility and, shall provide the inspector both visual and acoustic privacy.

(2) For a site with a single fuel facility licensed pursuant to part 70, the space provided shall be adequate to accommodate a full-time inspector, a part-time secretary and transient NRC personnel and will be generally commensurate with other office facilities at the site. A space of 250 square feet either within the site's office complex or in an office trailer or other on site space is suggested as a guide. For sites containing multiple fuel facilities, additional space may be requested to accommodate additional full-time inspector(s). The office space that is provided shall be subject to the approval of the Director, Office of Nuclear Material Safety and Safeguards or the appropriate NRC Regional Administrator. All furniture, supplies and communication equipment will be furnished by the Commission.

(3) The licensee shall afford any NRC resident inspector assigned to that site or other NRC inspectors identified by the Director, Office of Nuclear Material Safety and Safeguards, as likely to inspect the facility, immediate unfettered access, equivalent to access provided regular plant employees, following proper identification and compliance with applicable access control measures for security, radiological protection, and personal safety.

[21 FR 764, Feb. 3, 1956. Redesignated at 25 FR 1607, Feb. 25, 1960, and 25 FR 12730, Dec. 13, 1960, and amended at 32 FR 2583, Feb. 7, 1967; 44 FR 47919, Aug. 16, 1979; 52 FR 31612, Aug. 21, 1987; 54 FR 6877, Feb. 15, 1989; 55 FR 5979, Feb. 21, 1990]

§ 70.56 Tests.

Each licensee shall perform, or permit the Commission to perform such tests as the Commission deems appropriate or necessary for the administration of the regulations in this part, including tests of (a) special nuclear material, (b) facilities wherein special nuclear material is utilized, produced or stored, (c) radiation detection and monitoring instruments, and (d) other equipment and devices used in connection with the production, utilization or storage of special nuclear material.

[21 FR 764, Feb. 3, 1956. Redesignated at 25 FR 1607, Feb. 25, 1960, and 25 FR 12730, Dec. 13, 1960]

§ 70.57 Measurement control program for special nuclear materials control and accounting.

(a) As used in this section:

(1) *Measurement* includes sampling and means the determination of mass, volume, quantity, composition or other property of a material where such determinations are used for special nuclear material control and accounting purposes.

(2) *Measurement system* means all of the apparatus, equipment, instruments and procedures used in performing a measurement.

(3) *Reference standard* means a material, device, or instrument whose assigned value is known relative to national standards or nationally accepted measurement systems.

(4) *Traceability* means the ability to relate individual measurement results to national standards or nationally accepted measurement systems through an unbroken chain of comparisons.

(5) *Random error* refers to the variation encountered in all measurement work, characterized by the random occurrence of both positive and negative deviations from a mean value.

(6) A *systematic error* is a constant unidirectional component of error that affects all members of a data set; its value can, in some instances, be estimated by the deviation of the mean of a measurement process from a reference value. A systematic error whose value has been determined in this manner is called a bias, whose effect can be corrected for.

(7) *Uncertainty* is the extent to which a measurement result is in doubt because of the effects of random error variances and the limits of systematic errors associated with a measurement process, after the measurements result has been corrected for bias.

(8) *Calibration* means the process of determining the numerical relationship between the observed output of a measurement system and the value, based upon reference standards, of the characteristics being measured.

(b) In accordance with § 70.58(f), each licensee who is authorized to possess at any one time and location strategic special nuclear material, or special nuclear material of moderate strategic significance, in a quantity exceeding one effective kilogram and to use such special nuclear material for activities other than those involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter, those involved in a waste disposal operation, or as sealed sources, shall establish and maintain a measurement control program for special nuclear materials control and accounting measurements. Each program function must be identified and assigned in the licensee organization in accordance with § 70.58(b)(2), and functional organizational relationships must be set forth in writing in accordance with § 70.58(b)(3). The program must be described in a manual which contains the procedures, instructions, and forms prepared to meet the requirements of this paragraph, including procedures for the preparation, review, approval, and prompt dissemination of any program modifications or changes. The licensee shall retain the current program as a record until the Commission terminates the license authorizing possession of the nuclear materials. The licensee's program shall include the following:

(1) The licensee shall assign responsibility for planning, developing, coordinating, and administering the program to an individual in his organization who has no direct responsibilities for the operation of the analytical laboratory or for the processing of material, holds a position at an organizational level which will permit independence of action and objectivity of decision and has authority to obtain all the information required to moni-

tor and evaluate measurement quality as required by this section.

(2) Provisions must be made for management reviews to determine the adequacy of the program and to assess the applicability of current procedures and for planned audits to verify conformance with all aspects of the program. These reviews and audits must be performed at intervals not to exceed 12 months. Audits and reviews must be performed by trained individuals independent of direct responsibility for the receipt, custody, utilization, measurement, measurement quality, and shipment of special nuclear material. The results of reviews and audits must be recorded and reported to licensee management. The licensee shall retain each record of a review or an audit for three years after the record is made.

(3) The licensee shall ensure that any person who contracts to perform materials control and accounting measurement services conforms with applicable requirements of paragraphs (b) (4) through (8) and (10) through (12) of this section. Conformance must include reporting by the contractor of sufficient error data to allow the licensee to calculate bias corrections and measurement limits of error. All statistical studies must be reported or references in the measurement report submitted to the licensee, who shall have access to the contractor's supporting control data. The licensee shall perform reviews to determine the adequacy of the contractor's program and audits to verify conformance with all aspects of the program. Reviews and audits must be performed at intervals not to exceed 12 months. The results of reviews and audits must be documented and reported to licensee management. The licensee shall retain the record of the results of the licensee review and audit of the contractor's program for three years after the record is made.

(4) In order to ensure that potential sources of sampling error are identified and that samples are representative, process and engineering tests must be performed using well characterized materials to establish or to verify the applicability of existing procedures for sampling special nuclear
materials and for maintaining samp
integrity during transport and storag
The licensee shall record the results
the above process and engineerin
tests and shall maintain those resul
as a record for as long as that sa
pling systems is in use and for thr
years following the last such use. T
program must ensure that such pro
dures are maintained and followe
and that sampling is included in t
procedures for estimating bias
limits for systematic errors, a
random error variances.

(5) The program shall include pro
sions for the review and approv
before use, of written procedures for

(i) Preparing or acquiring, mainta
ing, storing and using reference sta
ards,

(ii) Calibrating measurement s
tems, performing bulk measuremen
obtaining samples, and performi
compositional analyses,

(iii) Recording, analyzing and repo
ing the program data and informati
and

(iv) Controlling measurement p
formance.

(6) To ensure the adequacy of e
measurement system with respect
process flows, sampling and measu
ment points, and nominal mate
compositions, engineering analy
and evaluations must be made of
design, installation, preoperatio
tests, calibration, and the operation
each system. These analyses and e
uations must be repeated wheneve
significant change is made in any c
ponent of a system. The licensee s
record the results of these analy
and evaluations and retain th
records for three years after the lif
the process or equipment.

(7) Procedures and performance
teria must be established for the tr
ing, qualifying, and periodic requal
ing of all personnel who perform s
pling and measurements for mater
control and accounting purposes.
licensee shall retain as a record the
sults of personnel qualification or
qualification for three years after
record is made.

(8) The program must generate
rent data on the performance of m
uring processes, including, as appr
ate, values for bias corrections

their uncertainties, random error variances, limits for systematic errors, and other parameters needed to establish the uncertainty of measurements pertaining to materials control and accounting. The program data must reflect the current process and measurement condition existing at the time the control measurements are made. The licensee shall record this data and retain this record for three years after the record is made. Measurements which are not controlled by the program may not be used for materials control or for accounting purposes. The program must include:

(i) The ongoing use of standards for calibration and control of all applicable measurement systems. Calibrations shall be repeated whenever any significant change occurs in a measurement system or when program data, generated by tests performed at a predetermined frequency, indicate a need for recalibration. Calibrations and tests shall be based upon reference standards.

(ii) A system of control measurements to provide current data for the determination of random error behavior. On a predetermined schedule, the system shall include the replicate analysis of process samples, the replicate weight or volume measurement of bulk quantities of material, and the analysis of replicate process samples.

(9) The program data generated during the current material balance period shall be used for the determination of the limit of error of the plant material balance. Measurement error data collected and used during immediately preceding material balance periods may be combined with current data provided that the measurements are in statistical control, i.e., when repeated samples from the portion of the measurement system under test behave as random samples from a stable probability distribution. Under such conditions, data sets may be combined provided that the parameter estimates based on the current set of data and the previous set of data are not significantly different on the basis of appropriate statistical tests performed at a level of significance of 0.05.

(10) The licensee shall evaluate with appropriate statistical methods all program data and information, and relevant process data used to establish bias corrections and their associated uncertainties, random error variances, limits for systematic error, and other parameters pertaining to special nuclear materials control and accounting measurements, and to control measurement performance pursuant to § 70.58(f). Bias corrections shall be made by an appropriate statistical procedure.

(11)(i) The licensee shall establish and maintain a statistical control system, including control charts and formal statistical procedures, designed to monitor the quality of each type of program measurement. The licensee shall retain a copy of the current statistical control system as a record until the Commission terminates each license that authorizes possession of the material that the system affects and shall retain copies of such system documents for previous inventory periods as a record for three years after they are replaced.

(ii) Control chart limits must be established to be equivalent to levels of significance of 0.05 and 0.001. Whenever control data exceed the 0.05 control limits, the licensee shall investigate the condition and take corrective action in a timely manner. The licensee shall record the results of these investigations and actions and retain each record for three years after the record is made. Whenever the control data exceed the 0.001 control limits, the measurement system that generated the data must not be used for material control and accounting purposes until the deficiency has been corrected and the system has been brought into control at the 0.05 control level.

(12) The licensee shall provide a records system in which all data, information, reports, and documents generated by the measurement control program must be retained for three years. Records must include a summary of the error data utilized in the limit of error calculations performed for each material balance period. The records system must be organized for efficient retrieval of program information. Each reported result must be readily

relatable to the original measurement data and to all relevant measurement control information, including pertinent calibration data. Records must be available for NRC inspection.

(c) Applicants and licensees subject to the provisions of paragraph (b) of this section shall submit to the Commission for approval a detailed plan describing the program that will be used to comply with said provisions. The plan submitted shall include the identification of those measurements to be contracted and shall describe the steps the licensee shall take to assure the adequacy of such procedures. Licensee's plans shall be submitted on or before November 11, 1975.

(d) Licensees subject to the provisions of paragraph (b) of this section shall follow the plans submitted pursuant to paragraph (c) of this section after May 11, 1976, or thirty days after the submitted plan is approved by the NRC whichever is later. After May 11, 1976, an applicant subject to the provisions of paragraph (b) of this section shall immediately implement his plan, submitted pursuant to paragraph (c) of this section, following incorporation of said plan as a condition of license.

[40 FR 33652, Aug. 11, 1975, as amended at 40 FR 50704, Oct. 31, 1975; 42 FR 25721, May 19, 1977; 53 FR 19254, May 27, 1988]

§ 70.58 Fundamental nuclear material controls.

(a) Each licensee who is authorized to possess at any one time and location strategic special nuclear material in irradiated fuel reprocessing operations or special nuclear material of moderate strategic significance in a quantity exceeding one effective kilogram, and to use such special nuclear material except for sealed sources and those uses involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter and those involved in a waste disposal operation, shall establish, maintain, and follow written material control and accounting procedures in compliance with the fundamental nuclear material control requirements specified in paragraphs (b) through (k) of this section and such other controls as the Commission determines to be essential for the control of and accounting for special nuclear material.

(b)(1) The overall planning, coordination, and administration of the material control and accounting functions for special nuclear materials shall be vested in a single individual at an organizational level sufficient to assure independence of action and objectiveness of decisions. In manufacturing organizations, such individual shall be independent of individuals or units that are solely responsible for production functions.

(2) Material control and accounting functions shall be identified and assigned in the licensee organization to provide a separation of functions so that the activities of one individual or organizational unit serve as controls over and checks of the activities of other individuals or organizational units.

(3) Material control and accounting functional and organizational relationships must be set forth in writing in job descriptions, organizational directives, instructions, procedure manuals, etc. This documentation must include position qualification requirements and definitions of authorities, responsibilities, and duties. Delegations of material control and accounting responsibilities and authority must be in writing. The licensee shall retain this documentation as a record until the Commission terminates each license that authorizes the activity that is subject to retention of the documentation, and if any portion of the documentation is superseded, retain the superseded material for three years after each change.

(c) A management system shall be established, maintained, and followed to provide for the development, revision, implementation, and enforcement of nuclear material control and accounting procedures. The system shall include:

(1) Provisions for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the material control and accounting function and by licensee plant management.

(2) Provision for a review at least every 12 months of the nuclear material control system by individuals inde-

pendent of both nuclear material control management and personnel who have direct responsibility for the receipt, custody, utilization, measurement, measurement quality, and shipment of nuclear material. Such a review shall include a review and audit of material control and accounting procedures and practices and an audit of the nuclear material records. The results of the review and audit along with recommendations for improvements shall be documented, reported to the licensee's corporate and plant management, and kept available at the plant for inspection for a period of five years.

(d) Material Balance Areas (MBA) or Item Control Areas (ICA) shall be established for physical and administrative control of nuclear material.

(1) Each MBA shall be an identifiable physical area such that the quantity of nuclear material being moved into or out of the MBA is represented by a measured value determined pursuant to paragraph (e) of this section.

(2) The number of MBAs shall be sufficient to localize nuclear material losses, or thefts and identify the mechanisms.

(3) The custody of all nuclear material within any MBA or ICA shall be the responsibility of a single designated individual.

(4) ICAs shall be established according to the same criteria as MBAs except that control into and out of such areas shall be by item identity and count for previously determined special nuclear material quantities, the validity of which shall be assured by tamper-safing unless the items are sealed sources.

(e) A system must be established, maintained, and followed for the measurement of all special nuclear material received, produced, or transferred between MBAs, transferred from MBAs to ICAs, on inventory, or shipped, discarded, or otherwise removed from inventory and for the determination of the limit of error associated with each such measured quantity except for plutonium-beryllium sources; samples that have been determined by other means to contain less than 10 grams U-235, U-233, or plutonium each; and reactor-irradiated fuels involved in research, development, and evaluation programs in facilities other than irradiated-fuel reprocessing plants. The system must be described in writing and provide for sufficient measurements to substantiate the quantities of element and isotope measured and the associated limits or error. The licensee shall record the required measurements and associated limits of error and shall retain any record associated with this system for three years after the record is made.

(f) A program must be established, maintained, and followed pursuant to § 70.57(b) for the continuing determination and control of the systematic and random errors of measurement processes at a level commensurate with the requirements of § 70.51(e)(5). The licensee shall retain each completed record required by the program for three years after the record is made.

(g) Procedures shall be established, maintained, and followed to:

(1) Assure accurate identification and measurement of the quantities of special nuclear material received and shipped by a licensee;

(2) Review and evaluate shipper-receiver differences on an individual container or lot basis, as appropriate, on a shipment basis, and on a cumulative basis for shipments of like type material;

(3) Take appropriate investigative and corrective action to reconcile shipper-receiver differences that are statistically significant at the 95 percent confidence level except those shipments which involve differences of 50 grams or less of U-235, U-233, or plutonium; and

(4) Maintain records of shipper-receiver difference evaluation, investigations, and corrective actions on file at the plant for a period of five years.

(h) A system of storage and internal handling controls must be established, maintained, and followed to provide current knowledge of the identity, quantity, and location of all special nuclear material contained within a plant in discrete items and containers. The licensee shall include procedures as specified in § 70.51(e)(1) and retain any record associated with the procedures for six months after the record is made;

(i) Procedures for special nuclear material scrap control must be established, maintained, and followed to limit the accumulation and the uncertainty of measurement of these materials on inventory. The licensee shall retain a copy of the current procedures as a record until the Commission terminates each license that authorizes the activity that is subject to the retention of procedures and, if any portion of the procedures is superseded, retain the superseded portion for three years after each change. Such procedures must include:

(1) Identification and classification of special nuclear material scrap;

(2) Regular processing and recovery of scrap so that no item of such scrap generated in the licensee's plant measured with an uncertainty of greater than ±10 percent remains on inventory longer than six months when such scrap contains plutonium, U-233, or uranium enriched 20 percent or more in the isotope U-235 or twelve months when such scrap contains uranium enriched less than 20 percent in the isotope U-235 or plutonium containing 80 percent or more by weight of the isotope Pu-238.

(j) Physical inventory procedures must be established, maintained, and followed so that special nuclear material balance and their measurement uncertainties can be determined on the basis of measurements in compliance with the material balance and inventory requirements and criteria specified in § 70.51. The licensee shall retain a copy of the current procedures as a record until the Commission terminates each license that authorizes the activity that is subject to the retention of procedures and, if any portion of the procedures is superseded, retain the superseded portion for three years after each change.

(k) A system of records and reports must be established, maintained, and followed that will provide information sufficient to locate special nuclear material and to close a measured material balance around each material balance area and the total plant, as specified in § 70.51. As required by § 70.51, the licensee shall retain the records associated with this system for three years after the records are made. This system must include:

(1) A centralized accounting system employing double-entry bookkeeping;

(2) Subsidiary accounts for each material balance area and item control area;

(3) Records pertinent to the requirements of § 70.51(e)(1);

(4) Procedures for the reconciliation of subsidiary accounts to control accounts at the end of each accounting period; and

(5) Procedures for reconciliation of control and subsidiary accounts to the results of physical inventories.

(l) Each licensee subject to the requirements of this section shall submit by January 24, 1975, a full description of his program for control of and accounting for special nuclear material in his possession under license to show how compliance with the requirements of this section, except for paragraph (f), will be accomplished. This program shall be followed by the licensee after July 24, 1975, or sixty days after the program is approved by the NRC, whichever is the later.

[39 FR 37766, Oct. 24, 1974, as amended at 40 FR 33653, Aug. 11, 1975; 49 FR 19631, May 9, 1984; 50 FR 7579, Feb. 25, 1985; 52 FR 10038, Mar. 30, 1987; 53 FR 19255, May 27, 1988]

§ 70.59 Effluent monitoring reporting requirements.

(a) Each licensee authorized to possess and use special nuclear material for processing and fuel fabrication, scrap recovery or conversion of uranium hexafluoride, shall:

(1) Submit a report to the appropriate NRC Regional Office shown in appendix D of part 20 of this chapter, with copies to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, within 60 days after January 1, 1976, and July 1, 1976, and within 60 days after January 1 and July 1 of each year thereafter, specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and gaseous effluents during the previous six months of operation.

and such other information as the Commission may require to estimate maximum potential annual radiation doses to the public resulting from effluent releases. If quantities of radioactive materials released during the reporting periods are significantly above the licensee's design objectives previously reviewed as part of the licensing action, the report shall cover this specifically. On the basis of such reports and any additional information the Commission may obtain from the licensee or others, the Commission may from time to time require the licensee to take such action as the Commission deems appropriate.

[40 FR 53230, Nov. 17, 1975, as amended at 41 FR 21627, May 27, 1976; 42 FR 25721, May 19, 1977; 52 FR 31612, Aug. 21, 1987]

MODIFICATION AND REVOCATION OF LICENSES

§ 70.61 Modification and revocation of licenses.

(a) The terms and conditions of all licenses shall be subject to amendment, revision, or modification by reason of amendments to the Atomic Energy Act of 1954, or by reason of rules, regulations or orders issued in accordance with the Act or any amendments thereto;

(b) Any license may be revoked, suspended or modified for any material false statements in the application or any statement of fact required under section 182 of the Act or because of conditions revealed by such application or statement of fact or any report, record, or inspection or other means which would warrant the Commission to refuse to grant a license on an original application, or for failure to construct or operate a facility in accordance with the terms of the construction permit or license, the technical specifications in the application, or for violation of, or failure to observe any of the terms and conditions of the Act, or of any regulation of the Commission.

(c) Upon revocation, suspension or modification of a license, the Commission may immediately retake possession of all special nuclear material held by the licensee. In cases found by the Commission to be of extreme importance to the national defense or security, or to the health and safety of the public, the Commission may recapture any special nuclear material held by the licensee prior to any of the procedures provided under section 551-558 of title 5 of the United States Code.

(d) Except in cases of willfulness or those in which the public health, interest or safety requires otherwise, no license shall be modified, suspended or revoked unless, prior to the institution of proceedings therefor, facts or conduct which may warrant such action shall have been called to the attention of the licensee in writing and the licensee shall have been accorded opportunity to demonstrate or achieve compliance with all lawful requirements.

[21 FR 764, Feb. 3, 1956, as amended at 35 FR 11461, July 17, 1970]

§ 70.62 Suspension and operation in war or national emergency.

Whenever Congress declares that a state of war or national emergency exists, the Commission, if it finds it necessary to the common defense and security may,

(a) Suspend any license it has issued.

(b) Order the recapture of special nuclear material.

(c) Order the operation of any licensed facility.

(d) Order entry into any plant or facility in order to recapture special nuclear material or to operate the facility. Just compensation shall be paid for any damages caused by recapture of special nuclear material or by operation of any facility, pursuant to this section.

[21 FR 764, Feb. 3, 1956, as amended at 32 FR 4056, Mar. 15, 1967; 35 FR 11461, July 17, 1970]

ENFORCEMENT

§ 70.71 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or Title II of the Energy Reorganization Act of 1974, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

[40 FR 8792, Mar. 3, 1975]

PART 71—PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL

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AUTHORITY: Secs. 53, 57, 62, 63, 81, 161, 182, 183, 68 Stat. 930, 932, 933, 935, 948, 953, 954, as amended (42 U.S.C. 2073, 2077, 2092, 2093, 2111, 2201, 2232, 2233); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 71.97 also issued under sec. 301, Pub. L. 96-295, 94 Stat. 789-790.

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 71.3, 71.43, 71.45, 71.55, 71.63(a) and (b), 71.83, 71.85, 71.87, 71.89, and 71.97 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); and §§ 71.5(b), 71.6a, 71.91, 71.93, 71.95, and 71.101(a) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 48 FR 35607, Aug. 5, 1983, unless otherwise noted.

Subpart A—General Provisions

§ 71.0 Purpose and scope.

(a) This part establishes: (1) requirements for packaging, preparation for shipment, and transportation of licensed material; and (2) procedures and standards for NRC approval of packaging and shipping procedures for fissile material and for a quantity of other licensed material in excess of a Type A quantity.

(b) The packaging and transport of licensed material are also subject to other parts of this chapter (e.g., Parts 20, 21, 30, 39, 40, 70, and 73) and to the regulations of other agencies (e.g., the U.S. Department of Transportation (DOT) and the U.S. Postal Service (USPS)[1]) having jurisdiction over means of transport. The requirements of this part are in addition to, and not in substitution for, other requirements.

(c) The regulations in this part apply to any licensee authorized by specific license issued by the Commission to receive, possess, use, or transfer licensed material if the licensee delivers that material to a carrier for transport or transports the material outside the confines of the licensee's facility, plant, or other authorized place of use. No provision of this part authorizes possession of licensed material.

(d) Exemptions from the requirement for license in § 71.3 are specified in § 71.10. General licenses for which no NRC package approval is required are issued in §§ 71.14 through 71.24. The general license in § 71.12 requires that an NRC certificate of compliance or other package approval be issued for the package to be used under the general license. Application for package approval must be completed in accordance with subpart D of this part, demonstrating that the design of the package to be used satisfies the package approval standards contained in subpart E of this part as related to the tests of subpart F of this part. The transport of licensed material or delivery of licensed material to a carrier for transport is subject to the operating controls and procedures requirements of subpart G of this part, to the quality assurance requirements of subpart H of this part, and to the general provisions of subpart A of this part, including DOT regulations referenced in § 71.5.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983, as amended at 52 FR 8241, Mar. 17, 1987]

§ 71.1 Communications and records.

(a) All communications concerning the regulations in this part should be addressed to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, or may be delivered in person at the Commission Office at 2120 L Street NW, Washington, DC, or its Offices at 11555 Rockville Pike, Rockville, MD.

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[1] Postal Service Manual (Domestic Mail Manual), section 124.3, which is incorporated by reference at 39 CFR 111.1 (1974).

(b) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

[53 FR 4111, Feb. 12, 1988, as amended at 53 FR 19256, May 27, 1988; 53 FR 43421, Oct. 27, 1988]

§ 71.2 Interpretations.

Only written interpretations of the regulations in this part by the Commission's General Counsel are binding upon the Commission.

§ 71.3 Requirement for license.

A licensee subject to the regulations in this part may not (a) deliver any licensed material to a carrier for transport or (b) transport licensed material except as authorized in a general license or a specific license issued by the Commission, or as exempted in this part.

§ 71.4 Definitions.

The following terms are as defined here for the purpose of this part. Throughout this part, the standards are expressed in metric units; the approximate English equivalents presented in parentheses are for information only.

A_1 means the maximum activity of special form radioactive material permitted in a Type A package. A_2 means the maximum activity of radioactive material, other than special form radioactive material, permitted in a Type A package. These values are either listed in Appendix A of this part, Table A-1, or may be derived in accordance with the procedure prescribed in Appendix A of this part.

Carrier means a person engaged in the transportation of passengers or property by land or water as a common, contract, or private carrier, or by civil aircraft.

Close reflection by water means immediate contact by water of sufficient thickness for maximum reflection of neutrons.

Containment system means the components of the packaging intended to retain the radioactive material during transport.

Conveyance means any vehicle, aircraft, vessel, freight container, or hold, compartment, or defined deck area of an inland waterway craft or seagoing vessel.

Exclusive use (also referred to in other regulations as "sole use" or "full load") means the sole use of a conveyance by a single consignor and for which all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee.

Fissile classification means the categorization of fissile material packages into one of the following three classes according to the controls needed to provide nuclear criticality safety during transportation:

(1) Fissile Class I: A package which may be transported in unlimited numbers and in any arrangement, and which requires no nuclear criticality safety controls during transportation. A transport index is not assigned for purposes of nuclear criticality safety but may be required because of external radiation levels.

(2) Fissile Class II: A package which may be transported together with other packages in any arrangement but, for criticality control, in numbers which do not exceed an aggregate transport index of 50. These shipments require no other nuclear criticality safety control during transportation. Individual packages may have a transport index not less than 0.1 and not more than 10.

(3) Fissile Class III: A shipment of packages which is controlled in transportation by specific arrangements between the shipper and the carrier to provide nuclear criticality safety.

Fissile material and *fissile radionuclides*: "Fissile material" means any material consisting of or containing one or more fissile radionuclides. Fissile radionuclides are plutonium-238, plutonium-239, plutonium-241, uranium-233, and uranium-235. Neither natural nor depleted uranium is fissile material. Fissile materials are classified in this section according to the controls needed to provide nuclear criticality safety during transportation. Certain exclusions are provided in § 71.53.

Low specific activity material means any of the following:

(1) Uranium or thorium ores and physical or chemical concentrates of those ores;

(2) Unirradiated natural or depleted uranium or unirradiated natural thorium;

(3) Tritium oxide in aqueous solutions provided the concentration does not exceed 5.0 millicuries per milliliter;

(4) Material in which the radioactivity is essentially uniformly distributed and in which the estimated average concentration per gram of contents does not exceed:

(i) 0.0001 millicurie of radionuclides for which the A_2 quantity in Appendix A of this part is not more than 0.05 curie;

(ii) 0.005 millicurie of radionuclides for which the A_2 quantity in Appendix A of this part is more than 0.05 curie, but not more than 1 curie; or

(iii) 0.3 millicurie of radionuclides for which the A_2 quantity in Appendix A of this part is more than 1 curie.

(5) Objects of nonradioactive material externally contaminated with radioactive material, provided that the radioactive material is not readily dispersible and the surface contamination, when averaged over an area of 1 square meter, does not exceed 0.0001 millicurie (220,000 disintegrations per minute) per square centimeter of radionuclides for which the A_2 quantity in Appendix A of part 71 is not more than 0.05 curie, or 0.001 millicurie (2,200,000 disintegrations per minute) per square centimeter for other radionuclides.

Maximum normal operating pressure means the maximum gauge pressure that would develop in the containment system in a period of one year under the heat test specified in § 71.71(c)(1), in the absence of venting, external cooling by an ancillary system, or operational controls during transport.

Natural thorium means thorium with the naturally occurring distribution of thorium isotopes (essentially 100 weight percent thorium-232).

Normal form radioactive material means radioactive material which has not been demonstrated to qualify as "special form radioactive material."

Optimum interspersed hydrogenous moderation means the presence of hydrogenous material between packages to such an extent that the maximum nuclear reactivity results.

Package means the packaging together with its radioactive contents as presented for transport.

(1) *Fissile material package* means a fissile material packaging together with its fissile contents.

(2) *Type B package* means a Type B package together with its radioactive contents. On approval, a Type B package design is designated by NRC as B(U) unless the package has a maximum normal operating pressure of more than 700 kilopascal (100 lb/in^2) gauge or a pressure relief device which would allow the release of radioactive material to the environment under the tests specified in § 71.73 (hypothetical accident conditions), in which case it will receive a designation B(M). B(U) refers to the need for unilateral approval of international shipments; B(M) refers to the need for multilateral approval. There is no distinction made in how packages with these designations may be used in domestic transportation. To determine their distinction for international transportation, see DOT regulations in 49 CFR part 173. A Type B package approved prior to September 6, 1983, was designated only as Type B. Limitations on its use are specified in § 71.13.

Packaging means the assembly of components necessary to ensure compliance with the packaging requirements of this part. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shocks. The vehicle, tie-down system, and auxiliary equipment may be designated as part of the packaging.

Special form radioactive material means radioactive material which satisfies the following conditions:

(1) It is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule;

(2) The piece or capsule has at least one dimension not less than 5 millimeters (0.197 inch); and

(3) It satisfies the test requirements of § 71.75.

A special form encapsulation designed in accordance with the requirements of § 71.4(o) of this part in effect on June 30, 1983, and constructed prior to July 1, 1985 may continue to be used. A special form encapsulation either designed or constructed after June 30, 1985 must meet requirements of this paragraph applicable at the time of its design or construction.

Specific activity of a radionuclide means the radioactivity of the radionuclide per unit mass of that nuclide. The specific activity of a material in which the radionuclide is essentially uniformly distributed is the radioactivity per unit mass of the material.

State means the several States of the Union, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the trust Territory of the Pacific Islands, and the Commonwealth of the Northern Mariana Islands.

Transport index means the dimensionless number (rounded up to the first decimal place) placed on the label of a package to designate the degree of control to be exercised by the carrier during transportation. The transport index is determined as follows:

(1) The number expressing the maximum radiation level in millirem per hour at 1 meter from the external surface of the package; or

(2) For Fissile Class II packages, the number expressing the maximum radiation level in millirem per hour at 1 meter from the external surface of the package, or the number obtained by dividing 50 by the allowable number of the packages which may be transported together as determined under § 71.59, whichever number is larger.

Type A quantity means a quantity of radioactive material, the aggregate radioactivity of which does not exceed A_1 for special form radioactive material or A_2 for normal form radioactive material, where A_1 and A_2 are given in Appendix A of this part or may be determined by procedures described in Appendix A of this part.

Type B quantity means a quantity of radioactive material greater than a Type A quantity.

Uranium—natural depleted enriched

(1) *Natural uranium* means uranium with the naturally occurring distribution of uranium isotopes (approximately 0.711 weight percent uranium-235, and the remainder essentially uranium-238).

(2) *Depleted uranium* means uranium containing less uranium-235 than the naturally occurring distribution of uranium isotopes.

(3) *Enriched uranium* means uranium containing more uranium-235 than the naturally occurring distribution of uranium isotopes.

[48 FR 35607, Aug. 5, 1983; 48 FR 38446, Aug. 24, 1983]

§ 71.5 Transportation of licensed material.

(a) Each licensee who transports licensed material outside of the confines of its plant or other place of use, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of DOT in 49 CFR Parts 170 through 189.

(1) The licensee shall particularly note DOT regulations in the following areas:

(i) Packaging—49 CFR part 173, Subparts A and B and §§ 173.401 through 173.478.

(ii) Marking and labeling—49 CFR part 172, subpart D and §§ 172.400 through 172.407; 172.436 through 172.440.

(iii) Placarding—49 CFR part 172.500 through 172.519, 172.556 and Appendices B and C.

(iv) Monitoring—49 CFR part 172, subpart C.

(v) Accident reporting—49 CFR part 171.15 and 171.16.

(vi) Shipping papers—49 CFR part 172, subpart C.

(2) The licensee shall also note DOT regulations pertaining to the following modes of transportation:

(i) Rail—49 CFR part 174, Subparts A-D and K.

(ii) Air—49 CFR part 175, Subparts A-D and M.

(iii) Vessel—49 CFR part 176, Subparts A-D and M.

(iv) Public Highway—49 CFR part 177.

(b) If DOT regulations are not applicable to a shipment of licensed material by rail, highway, or water because the shipment or the transportation of the shipment is not in interstate or foreign commerce, or to a shipment of licensed material by air because the shipment is not transported in civil aircraft, the licensee shall conform to the standards and requirements of the DOT specified in paragraph (a) of this section to the same extent as if the shipment or transportation were in interstate or foreign commerce or in civil aircraft. A request for modification, waiver, or exemption from those requirements, and any notification referred to in those requirements, must be filed with or made to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

§ 71.6 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150-0008.

(b) The approved information collection requirements contained in this part appear in §§ 71.5, 71.12, 71.31, 71.33, 71.35, 71.37, 71.85, 71.87, 71.89, 71.91, 71.93, 71.95, 71.97, 71.101, 71.103, 71.105, 71.107, 71.109, 71.111, 71.113, 71.115, 71.117, 71.119, 71.121, 71.123, 71.125, 71.127, 71.129, 71.131, 71.133, 71.135, and 71.137.

[49 FR 19628, May 9, 1984]

§ 71.6a Completeness and accuracy of information.

(a) Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

(b) Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Commission of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification shall be provided to the Administrator of the appropriate Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the Commission by other reporting or updating requirements.

[52 FR 49373, Dec. 31, 1987]

Subpart B—Exemptions

§ 71.7 Specific exemptions.

On application of any interested person or on its own initiative, the Commission may grant any exemption from the requirements of the regulations in this part that it determines is authorized by law and will not endanger life or property or the common defense and security.

§ 71.9 Exemption of physicians.

Any physician licensed by a State of the United States to dispense drugs in the practice of medicine is exempt from § 71.5 with respect to transport by the physician of licensed material for use in the practice of medicine. However, any physician operating under this exemption must be licensed under 10 CFR part 35.

§ 71.10 Exemption for low level materials.

(a) A licensee is exempt from all requirements of this part with respect to shipment or carriage of a package containing radioactive material having a specific activity not greater than 0.002 microcurie/gram.

(b) A licensee is exempt from all requirements of this part, other than § 71.5 and § 71.88, with respect to shipment or carriage of the following packages:

(1) A package containing no more than a Type A quantity of radioactive material if the package contains no fissile material or if the fissile material exemption standards of § 71.53 are satisfied; or

(2) A package transported between locations within the United States which contains only americium or plutonium in special form with an aggregate radioactivity not to exceed 20 curies, if the package contains no fissile material or if the fissile material exemption standards of § 71.53 are satisfied.

Subpart C—General Licenses

§ 71.12 General license: NRC approved package.

(a) A general license is hereby issued to any licensee of the Commission to transport, or to deliver to a carrier for transport, licensed material in a package for which a license, certificate of compliance, or other approval has been issued by the NRC.

(b) This general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of this part.

(c) This general license applies only to a licensee who:

(1) Has a copy of the specific license, certificate of compliance, or other approval of the package and has the drawings and other documents referenced in the approval relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment;

(2) Complies with the terms and conditions of the license, certificate, or other approval, as applicable, and the applicable requirements of Subparts A, G, and H of this part; and

(3) Submits in writing to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, prior to the licensee's first use of the package, the licensee's name and license number and the package identification number specified in the package approval.

(d) This general license applies only when the package approval authorizes use of the package under this general license.

(e) For previously approved Type B packages which are not designated as either B(U) or B(M) in the NRC Certificate of Compliance, this general license is subject to the additional restrictions of § 71.13.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983]

§ 71.13 Previously approved Type B package.

(a) A Type B package previously approved by the NRC, but not designated as B(U) or B(M) in the NRC Certificate of Compliance, may be used under the general license of § 71.12 with the following additional limitations:

(1) Fabrication of the packaging was satisfactorily completed before August 31, 1986, as demonstrated by application of its model number in accordance with § 71.85(c); and

(2) The package may not be used for a shipment to a location outside the United States after August 31, 1986, except under special arrangement approved by DOT in accordance with 49 CFR 173.471.

(b) The NRC will approve modifications to the design and authorized contents of a Type B package previously approved by the NRC, but not designated as B(U) or B(M) in the NRC Certificate of Compliance, provided:

(1) The modifications are not significant with respect to the design, operating characteristics, or safe performance of the containment system when the package is subjected to the tests specified in §§ 71.71 and 71.73; and

(2) The modification to the package satisfies the requirements of this part.

(c) The NRC will revise the package identification number to designate previously approved Type B package designs as B(U) or B(M) after receipt of an application demonstrating that the design meets the requirements of this part.

§ 71.14 General license: DOT specification container.

(a) A general license is issued to any licensee of the Commission to transport or to deliver to a carrier for transport licensed material in a specification container for fissile material or for a Type B quantity of radioactive material as specified in the regulations of DOT in 49 CFR Parts 173 and 178.

(b) This general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of this part.

(c) This general license applies only to a licensee who:

(1) Has a copy of the specification; and

(2) Complies with the terms and conditions of the specification and the applicable requirements of Subparts A, G, and H of this part.

(d) This general license is subject to the limitation that the specification container may not be used for a shipment to a location outside the United States after August 31, 1986, except under special arrangements approved by DOT in accordance with 49 CFR 173.472.

§ 71.16 General license: Use of foreign approved package.

(a) A general license is issued to any licensee of the Commission to transport or to deliver to a carrier for transport licensed material in a package the design of which has been approved in a foreign national competent authority certificate which has been revalidated by DOT as meeting the applicable requirements of 49 CFR 171.12.

(b) This general license applies only to shipments made to or from locations outside the United States.

(c) This general license applies only to a licensee who:

(1) Has a copy of the applicable certificate, the revalidation, and the drawings and other documents referenced in the certificate relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment; and

(2) Complies with the terms and conditions of the certificate and revalidation and with the applicable requirements of Subparts A, G, and H of this part. With respect to the quality assurance provisions of subpart H of this part, the licensee is exempt from design, construction, and fabrication considerations.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983]

§ 71.18 General license: Type A, Fissile Class II package.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if the material is shipped as a Fissile Class II package.

(b) This general license applies only when a package contains no more than a Type A quantity of radioactive material, including only one of the following:

(1) Up to 40 grams of uranium-235; or

(2) Up to 30 grams of uranium-233; or

(3) Up to 25 grams of the fissile radionuclides of plutonium, except that for encapsulated plutonium-beryllium neutron sources in special form, an A_1 quantity of plutonium may be present; or

(4) A combination of fissile radionuclides in which the sum of the ratios of the amount of each radionuclide to the corresponding maximum amounts in paragraphs (b) (1), (2), and (3) of this section does not exceed unity.

(c) This general license applies only when, except as specified below for encapsulated plutonium-beryllium sources, a package containing more than 15 grams of fissile radionuclides is labeled with a transport index not less than the number given by the following equation, where the package contains x grams of uranium-235, y grams of uranium-233 and z grams of the fissile radionuclides of plutonium:

$$\text{Minimum Transport Index} = \left(0.40x + 0.67y + z\right)\left(1 - \frac{15}{x+y+z}\right)$$

For a package in which the only fissile material is in the form of encapsulated plutonium-beryllium neutron sources in special form, the transport index based on criticality considerations may be taken as 0.026 times the number of grams of the fissile radionuclides of plutonium in excess of 15 grams. In all cases, the transport index must be rounded up to one decimal place, and may not exceed 10.0.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983; 48 FR 51903, Nov. 15, 1983]

§ 71.20 General license: Restricted, Fissile Class II package.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if the material is shipped as a Fissile Class II package.

(b) This general license applies only when:

(1) The package contains no more than a Type A quantity of radioactive material; and

(2) Neither beryllium nor hydrogenous material enriched in deuterium is present; and

(3) The total mass of graphite present does not exceed 150 times the total mass of uranium-235 plus plutonium; and

(4) Substances having a higher hydrogen density than water, e.g., certain hydrocarbon oils, are not present, except that polyethylene may be used for packing or wrapping; and

(5) Uranium-233 is not present, and the amount of plutonium does not exceed 1% of the amount of uranium-235; and

(6) The amount of uranium-235 is limited as follows:

(i) If the fissile radionuclides are not uniformly distributed, the maximum amount of uranium-235 per package may not exceed the value given in Table I of this part; or

TABLE I—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS II PACKAGE APPLICABLE TO § 71.20(b)(6)(i)

[Non-uniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per package
24	40
20	42
15	45
11	48
10	51
9.5	52
9	54
8.5	55
8	57
7.5	59
7	60
6.5	62
6	65
5.5	68
5	72
4.5	76
4	80
3.5	88
3	100
2.5	120
2	164
1.5	272
1.35	320
1	680
0.92	1,200

(ii) If the fissile radionuclides are distributed uniformly (i.e., cannot form a lattice arrangement within the packaging) the maximum amount of uranium-235 per package may not exceed the value given in Table II of this part; and

TABLE II—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS II PACKAGE APPLICABLE TO § 71.20(b)(6)(ii)

[Uniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per package
4	84
3.5	92
3	112
2.5	148
2	240
1.5	560
1.35	800

(7) The transport index of each package based on criticality considerations is taken as 10 times the number of grams of uranium-235 in the package divided by the maximum allowable number of grams per package in accordance with Table I or Table II of this part as applicable.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983]

§ 71.22 General license: Type A package, Fissile Class III shipment.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if limited material is shipped as a Fissile Class III shipment.

(b) This general license applies only when a package contains no more than a Type A quantity of radioactive material and no more than 400 grams total of the fissile radionuclides of plutonium encapsulated as plutonium-beryllium neutron sources in special form.

(c) This general license applies only when the fissile radionuclides in the Fissile Class III shipment exceeds none of the following:

(1) 500 grams of uranium-235; or

(2) 300 grams total of uranium-233, and the fissile radionuclides of plutonium; or

(3) A total quantity of uranium-233, uranium-235, and the fissile radionuclides of plutonium such that the sum of the ratios of the quantity of each radionuclide to the quantity specified in paragraphs (c)(1) and (c)(2) of this section exceeds unity; or

(4) 2500 grams total of the fissile radionuclides of plutonium encapsulated as plutonium-beryllium neutron sources in special form.

(d) This general license applies only when shipment of these packages is made under procedures specifically authorized by DOT in accordance with 49 CFR part 173 of its regulations to prevent loading, transport or storage of these packages with other Fissile Class II packages or Fissile Class III shipments.

§ 71.24 General license: Restricted, Fissile Class III shipment.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if limited material is shipped as a Fissile Class III shipment.

(b) This general license applies only when:

(1) No package contains more than a Type A quantity of radioactive material; and

(2) The packaging does not incorporate lead shielding exceeding 5 cm in thickness, tungsten shielding, or uranium shielding; and

(3) Neither beryllium nor hydrogenous material enriched in deuterium is present; and

(4) The total mass of graphite present does not exceed 150 times the total mass of uranium-235 and plutonium; and

(5) Substances having a higher hydrogen density than water, e.g., certain hydrocarbon oils, are not present, except that polyethylene may be used for packing or wrapping; and

(6) For fissile contents containing no uranium-233 and less than 1% total plutonium:

(i) If the fissile radionuclides are not uniformly distributed, the maximum amount of uranium-235 per consignment does not exceed the value given in Table III of this part; or

TABLE III—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS III SHIPMENT APPLICABLE TO § 71.24(b)(6)(i)

[NonUniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per consignment
20	520
15	580
11	600
10	640
9.5	655
9	675
8.5	690
8	710
7.5	730
7	750
6.5	780
6	810
5.5	850
5	900
4.5	950
4	1,000
3.5	1,100
3	1,250
2.5	1,500
2	2,050
1.5	3,400
1.35	4,000
1	6,500
0.92	15,000

(ii) If the fissile radionuclides are distributed uniformly and cannot form a lattice arrangement within the packaging, the maximum amount of uranium-235 per shipment does not exceed the value given in Table IV of this part; and

TABLE IV—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS III SHIPMENT APPLICABLE TO § 71.24(b)(6)(ii)

[Uniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per consignment
4	1,050
3.5	1,150
3	1,400
2.5	1,800
2	3,000
1.5	7,000
1.35	10,000

(7) For fissile contents containing uranium-233 or more than 1% plutonium, the total mass of fissile material per shipment is limited so that the sum of the number of grams of uranium-235 divided by 400, the number of grams of plutonium divided by 225, and the number of grams of uranium-233 divided by 250 does not exceed unity as expressed in the formula

$$\frac{\text{grams uranium 235}}{400\text{ grams}} + \frac{\text{grams plutonium}}{225\text{ grams}} + \frac{\text{grams uranium 233}}{250\text{ grams}} \le 1; \quad \text{and}$$

(8) The transport must be direct to the consignee without any intermediate transit storage; and

(9) Shipment of these packages is made under procedures specifically authorized by DOT in accordance with 49 CFR part 173 of its regulations to prevent loading, transport or storage of these packages with other Fissile Class II packages or Fissile Class III shipments.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983]

Subpart D—Application for Package Approval

§ 71.31 Contents of application.

(a) An application for an approval under this part must include, for each proposed packaging design, the following information:

(1) A package description as required by § 71.33;

(2) A package evaluation as required by § 71.35;

(3) A quality assurance program description as required by § 71.37;

(4) In the case of fissile material, an identification of the proposed fissile class.

(b) Except as provided in § 71.13, an application for modification of a package design, whether for modification of the packaging or authorized contents, must include sufficient information to demonstrate that the proposed design satisfies the package standards in effect at the time the application is filed.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983]

§ 71.33 Package description.

The application must include a description of the proposed package in sufficient detail to identify the package accurately and provide a sufficient basis for evaluation of the package. The description must include:

(a) With respect to the packaging:

(1) Classification as Type B(U), Type B(M), or fissile material packaging;

(2) Gross weight;

(3) Model number;

(4) Identification of the containment system;

(5) Specific materials of construction, weights, dimensions, and fabrication methods of:

(i) Receptacles;

(ii) Materials specifically used as nonfissile neutron absorbers or moderators;

(iii) Internal and external structures supporting or protecting receptacles;

(iv) Valves, sampling ports, lifting devices, and tie-down devices;

(v) Structural and mechanical means for the transfer and dissipation of heat; and

(6) Identification and volumes of any receptacles containing coolant.

(b) With respect to the contents of the package:

(1) Identification and maximum radioactivity of radioactive constituents;

(2) Identification and maximum quantities of fissile constituents;

(3) Chemical and physical form;

(4) Extent of reflection, the amount and identity of nonfissile materials used as neutron absorbers or moderators, and the atomic ratio of moderator to fissile constituents;

(5) Maximum normal operating pressure;

(6) Maximum weight;

(7) Maximum amount of decay heat; and

(8) Identification and volumes of any coolants.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983]

§ 71.35 Package evaluation.

The application must include:

(a) A demonstration that the package satisfies the standards specified in Subparts E and F of this part;

(b) For a Fissile Class II package, the allowable number of packages which may be transported in the same vehicle in accordance with § 71.59; and

(c) For a Fissile Class III shipment, any proposed special controls and precautions for transport, loading, unloading, and handling, and any proposed special controls in the event of accident or delay.

§ 71.37 Quality assurance.

(a) The applicant shall describe the quality assurance program (see subpart H of this part) for the design, fabrication, assembly, testing, maintenance, repair, modification, and use of the proposed package.

(b) The applicant shall identify any established codes and standards proposed for use in package design, fabrication, assembly, testing, maintenance, and use. In the absence of any codes and standards, the applicant shall describe the basis and rationale used to formulate the package quality assurance program.

(c) The applicant shall identify any specific provisions of the quality assurance program which are applicable to the particular package design under consideration, including a description of the leak testing procedures.

§ 71.39 Requirement for additional information.

The Commission may at any time require additional information in order to enable it to determine whether a license, certificate of compliance, or other approval should be granted, denied, modified, suspended, or revoked.

Subpart E—Package Approval Standards

§ 71.41 Demonstration of compliance.

(a) The effects on a package of the tests specified in § 71.71 (Normal Conditions of Transport) and the tests specified in § 71.73 (Hypothetical Accident Conditions) must be evaluated by subjecting a sample package or scale model to test, or by other method of demonstration acceptable to the Commission, as appropriate for the particular feature being considered.

(b) Taking into account the type of vehicle, the method of securing or attaching the package, and the controls to be exercised by the shipper, the Commission may permit the shipment to be evaluated together with the transporting vehicle.

(c) Environmental and test conditions different from those specified in §§ 71.71 and 71.73 may be approved by the Commission if the controls proposed to be exercised by the shipper are demonstrated to be adequate to assure the safety of the shipment.

§ 71.43 General standards for all packages.

(a) The smallest overall dimension of a package must not be less than 10 cm (four in.).

(b) The outside of a package must incorporate a feature, such as a seal, which is not readily breakable, and which, while intact, would be evidence that the package has not been opened by unauthorized persons.

(c) Each package must include a containment system securely closed by a positive fastening device which cannot be opened unintentionally.

(d) A package must be of materials and construction which assure that there will be no significant chemical, galvanic, or other reaction among the packaging components or between the packaging components and the package contents, including possible reaction resulting from inleakage of water to the maximum credible extent.

(e) A package valve or other device, the failure of which would allow radioactive contents to escape, must be protected against unauthorized operation and, except for a pressure relief device, must be provided with an enclosure to retain any leakage.

(f) A package must be designed, constructed, and prepared for shipment so that under the tests specified in § 71.71 (Normal Conditions of Transport) there would be no loss or dispersal of radioactive contents, no significant increase in external radiation levels, and no substantial reduction in the effectiveness of the packaging.

(g) A package must be designed, constructed, and prepared for transport so that in still air at 38°C (100°F) and in the shade, no accessible surface of a package would have a temperature exceeding 50°C (122°F) in a non-exclusive use shipment or 82°C (180°F) in an exclusive use shipment.

(h) A package must not incorporate a feature which is intended to allow continuous venting during transport.

§ 71.45 Lifting and tie-down standards for all packages.

(a) Any lifting attachment that is a structural part of a package must be designed with a minimum safety factor of three against yielding when used to lift the package in the intended manner, and must be designed so that failure of any lifting device under excessive load would not impair the ability of the package to meet other requirements of this subpart. Any other structural part of the package which could be used to lift the package must be capable of being rendered inoperable for lifting the package during transport or must be designed with strength equivalent to that required for lifting attachments.

(b) Tie-down devices:

(1) If there is a system of tie-down devices which is a structrual part of the package, the system must be capable of withstanding, without generating stress in any material of the package in excess of its yield strength, a static force applied to the center of gravity of the package having a vertical component of two times the weight of the package with its contents, a horizontal component along the direction in which the vehicle travels of 10 times the weight of the package with its contents, and a horizontal component in the transverse direction of five times the weight of the package with its contents.

(2) Any other structural part of the package which could be used to tie down the package must be capable of being rendered inoperable for tying down the package during transport, or must be designed with strength equivalent to that required for tie-down devices.

(3) Each tie-down device which is a structural part of a package must be designed so that failure of the device under excessive load would not impair the ability of the package to meet other requirements of this part.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983]

§ 71.47 External radiation standards for all packages.

A package must be designed and prepared for shipment so that the radiation level does not exceed 200 millirem per hour at any point on the external surface of the package and the transport index does not exceed 10 (See § 71.4 "Definitions"). For a package transported as exclusive use by rail, highway, or water, radiation levels external to the package may exceed those limits, but must not exceed any of the following:

(a) 200 millirem/hour on the accessible external surface of the package unless the following conditions are met, in which case the limit is 1000 millirem per hour:

(1) The shipment is made in a closed transport vehicle;

(2) Provisions are made to secure the package so that its position within the vehicle remains fixed during transportation; and

(3) There are no loading or unloading operations between the beginning and end of the transportation;

(b) 200 millirem/hour at any point on the outer surface of the vehicle, including the upper and lower surfaces, or, in the case of an open vehicle, at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load, and on the lower external surface of the vehicle;

(c) 10 millirem/hour at any point two meters from the vertical planes represented by the outer lateral surfaces of the vehicle, or, in the case of an open vehicle, at any point two meters from the vertical planes projected from the outer edges of the conveyance; and

(d) Two millirem/hour in any normally occupied positions of the vehicle, except that this provision does not apply to private motor carriers when persons occupying these positions are provided with special health supervision, personnel radiation exposure monitoring devices, and training in accordance with § 19.12 of this chapter.

§ 71.51 Additional requirements for Type B packages.

(a) A Type B package, in addition to satisfying the requirements of §§ 71.41 through 71.47 must be designed, constructed, and prepared for shipment so that under the tests specified in:

(1) Section 71.71 (Normal Conditions of Transport), there would be no loss or dispersal of radioactive contents, as demonstrated to a sensitivity of 10^{-6} A_2 per hour, no significant increase in external radiation levels, and no substantial reduction in the effectiveness of the packaging; and

(2) Section 71.73 (Hypothetical Accident Conditions), there would be no escape of krypton-85 exceeding 10,000 curies in one week, no escape of other radioactive material exceeding a total amount A_2 in one week, and no external radiation dose rate exceeding one rem per hour at one meter from the external surface of the package.

(b) Compliance with the permitted activity release limits of paragraph (a) of this section must not depend upon filters or upon a mechanical cooling system.

§ 71.52 Exemption for low specific activity (LSA) packages.

A package need not satisfy the requirements of § 71.51 if it contains only low specific activity material and is transported as exclusive use, but is subject to §§ 71.41 through 71.47 of this part, including § 71.43(f).

§ 71.53 Fissile material exemptions.

The following packages are exempt from fissile material classification and from the fissile material standards of §§ 71.55 through 71.61, but are subject to all other requirements of this part:

(a) A package containing not more than 15 grams of fissile radionuclides. If material is transported in bulk, the quantity limitation applies to the conveyance; or

(b) A package containing irradiated natural or depleted uranium including the products of irradiation if the irradiation has taken place only in a thermal reactor; or

(c) A package containing homogenous hydrogenous solutions or mixtures where:

(1) The minimum ratio of the number of hydrogen atoms to the number of atoms of fissile radionuclides(H/X) is 5200;

(2) The maximum concentration of fissile radionuclides is five grams/liter; and

(3) The maximum mass of fissile radionuclides in the package is 800 grams, except for a mixture where the total mass of plutonium and uranium-233 exceeds one percent of the mass of uranium-235 the limit is 500 grams. If the material is transported in bulk, the quantity limitations apply to the vehicle, to a hold or compartment of an inland waterway craft, or to a hold, compartment, or defined deck area of a seagoing vessel; or

(d) A package containing uranium enriched in uranium-235 to a maximum of one percent by weight, and with a total plutonium and uranium-233 content of up to one percent of the mass of uranium-235, if the fissile radionuclides are distributed homogeneously throughout the package contents, and do not form a lattice arrangement within the package; or

(e) A package containing any fissile material if it does not contain more than five grams of fissile radionuclides in any 10-liter volume, and if the material is packaged so as to maintain this limit of fissile radionuclide concentration during normal transport; or

(f) A package containing not more than one kilogram of plutonium of which not more than 20% by mass may consist of plutonium-239, plutonium-241, or any combination of those radionuclides; or

(g) A package containing liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of two percent by weight, with total plutonium and uranium-233 not more than one-tenth percent of the mass of uranium-235.

§ 71.55 General requirements for all fissile material packages.

(a) A package used for the shipment of fissile material must be designed and constructed in accordance with §§ 71.41 through 71.47. When required by the total amount of radioactive material, a package used for the shipment of fissile material must also be designed and constructed in accordance with § 71.51.

(b) Except as provided in paragraph (c) of this section, a package used for the shipment of fissile material must be so designed and constructed and its contents so limited that it would be subcritical if water were to leak into the containment system or liquid contents were to leak out of the containment system so that, under the following conditions, maximum reactivity of the fissile material would be attained:

(1) The most reactive credible configuration consistent with the chemical and physical form of the material;

(2) Moderation by water to the most reactive credible extent; and

(3) Close reflection by water on all sides.

(c) The Commission may approve exceptions to the requirements of paragraph (b) of this section if the package incorporates special design features that ensure that no single packaging error would permit leakage, and if appropriate measures are taken before each shipment to ensure the containment system does not leak.

(d) A package used for the shipment of fissile material must be so designed and constructed and its contents so limited that under the tests specified in § 71.71 (Normal Conditions of Transport):

(1) The contents would be subcritical;

(2) The geometric form of the package contents would not be substantially altered;

(3) There would be no leakage of water into the containment system unless, in the evaluation of undamaged packages under §§ 71.57(a), 71.59(b)(1), and 71.61(a), it has been assumed that moderation is present to such an extent as to cause maximum reactivity consistent with the chemical and physical form of the material; and

(4) There will be no substantial reduction in the effectiveness of the packaging, including:

(i) No more than five percent reduction in the total effective volume of the packaging on which nuclear safety is assessed;

(ii) No more than five percent reduction in the effective spacing between the fissile contents and the outer surface of the packaging; and

(iii) No occurrence of an aperture in the outer surface of the packaging large enough to permit the entry of a 10 cm (four in.) cube.

(e) A package used for the shipment of fissile material must be so designed and constructed and its contents so limited that under the tests specified in § 71.73 (Hypothetical Accident Conditions), the package would be subcritical. For this determination, it must be assumed that:

(1) The fissile material is in the most reactive credible configuration consistent with the damaged condition of the package and the chemical and physical form of the contents;

(2) Water moderation occurs to the most reactive credible extent consistent with the damaged condition of the package and the chemical and physical form of the contents; and

(3) There is reflection by water on all sides, as close as is consistent with the damaged condition of the package.

§ 71.57 Specific standards for a Fissile Class I package.

A Fissile Class I package must be so designed and constructed and its contents so limited that:

(a) Any number of undamaged packages would be subcritical in any arrangement and with optimum interspersed hydrogenous moderation unless there is a greater amount of interspersed moderation in the packaging, in which case the greater amount may be assumed for this determination; and

(b) Two hundred fifty (250) packages, if each package were subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions), would be subcritical if stacked together in any arrangement, closely reflected on all sides of the stack by water, and with optimum interspersed hydrogenous moderation.

§ 71.59 Specific standards for a Fissile Class II package.

(a) A Fissile Class II package must be controlled by the carrier during transport. To provide this control, the designer of a Fissile Class II package must determine the allowable number of packages of that design which can be safely transported in a vehicle under the conditions specified in this section. This allowable number of packages determines the minimum transport index which the shipper of the package marks on the package label when the package is shipped. By limiting to 50 the total number of transport indexes in a vehicle or storage area, the carrier provides adequate criticality control.

(b) A Fissile Class II package must be designed and constructed and its contents so limited, and the allowable number of these packages in a Fissile Class II shipment so determined, that:

(1) Five times the allowable number of undamaged packages would be subcritical if stacked together in any arrangement and closely reflected on all sides of the stack by water; and

(2) Twice the allowable number of packages, if each package were subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions), would be subcritical if stacked together in any arrangement, closely reflected on all sides of the stack by water, and with optimum interspersed hydrogenous moderation.

(c) The transport index with respect to criticality control for each Fissile Class II package must be calculated by dividing the number 50 by the allowable number of Fissile Class II packages which may be transported together as determined under the limitations of paragraph (b) of this section. The transport index so determined must not exceed 10 and must be rounded up to the first decimal place.

§ 71.61 Specific standards for a Fissile Class III shipment.

A package for Fissile Class III shipment must be so designed and constructed and its contents so limited, and the number of packages in a Fissile Class III shipment must be so limited, that:

(a) Twice this number of undamaged packages would be subcritical if stacked together in any arrangement, assuming close reflection on all sides of the stack by water; and

(b) This number of packages would be subcritical if stacked together in any arrangement, closely reflected on all sides of the stack by water, and with optimum interspersed hydrogenous moderation. Except as permitted under § 71.41, each package must be considered to have been subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions).

§ 71.63 Special requirements for plutonium shipments.

(a) Plutonium in excess of 20 curies per package must be shipped as a solid.

(b) Plutonium in excess of 20 curies per package must be packaged in a separate inner container placed within outer packaging that meets the requirements of Subparts E and F for packaging of material in normal form. If the entire package is subjected to the tests specified in § 71.71 (Normal Conditions of Transport), the separate inner container must not release plutonium, as demonstrated to a sensitivity of 10^{-6} A_2 per hour. If the entire package is subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions), the separate inner container must restrict the loss of plutonium to not more than A_2 in one week. Solid plutonium in the following forms is exempt from the requirements of this paragraph:

(1) Reactor fuel elements;

(2) Metal or metal alloy; and

(3) Other plutonium bearing solids that the Commission determines should be exempt from the requirements of this section.

§ 71.65 Additional requirements.

The Commission may, by rule, regulation, or order, impose requirements upon any licensee in addition to those established in this part as it deems necessary or appropriate to protect health or to minimize danger to life or property.

Subpart F—Package and Special Form Tests [2]

§ 71.71 Normal conditions of transport.

(a) *Evaluation*. Evaluation of each package design under normal conditions of transport must include a determination of the effect on that design of the conditions and tests specified in this section. Separate specimens may be used for the free drop test, the compression test, and the penetration test if each specimen is subjected to the water spray test before being subjected to any of the other tests.

(b) *Initial conditions*. With respect to the initial conditions for the tests in this section, the demonstration of compliance with the requirements of this part must be based on the ambient temperature preceding and following the tests remaining constant at that value between −29°C (−20°F) and +38°C (100°F) which is most unfavorable for the feature under consideration. The initial internal pressure within the containment system must be considered to be the maximum normal operating pressure, unless a lower internal pressure consistent with the ambient temperature considered to precede and follow the tests is more unfavorable.

(c) *Conditions and tests*—(1) *Heat*. An ambient temperature of 38°C (100°F) in still air, and insolation according to the following table:

INSOLATION DATA

Form and location of surface	Total insolation for a 12-hour period (g cal/cm²)
Flat surfaces transported horizontally:	
—Base	None.
—Other surfaces	800.
Flat surfaces not transported horizontally	200.
Curved surfaces	400.

(2) *Cold*. An ambient temperature of −40°C (−40°F) in still air and shade.

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[2] The package standards related to the tests in this subpart are contained in subpart E.

(3) *Reduced external pressure.* An external pressure of 24.5 kilopascal (3.5 psi) absolute.

(4) *Increased external pressure.* An external pressure of 140 kilopascal (20 psi) absolute.

(5) *Vibration.* Vibration normally incident to transport.

(6) *Water spray.* A water spray that simulates exposure to rainfall of approximately five cm (two in.) per hour for at least one hour.

(7) *Free drop.* Between 1½ and 2½ hours after the conclusion of the water spray test, a free drop through the distance specified below onto a flat, essentially unyielding, horizontal surface, striking the surface in a position for which maximum damage is expected. For Fissile Class II packages, this free drop must be preceded by a free drop from a height of 0.3 m (one ft.) on each corner or, in the case of a cylindrical Fissile Class II package, onto each of the quarters of each rim.

CRITERIA FOR FREE DROP TEST (WEIGHT/DISTANCE)

Package weight		Free drop distance	
Kilograms	Pounds	Meters	Feet
5,000 or less	(11,000)	1.2	(4)
5,000 to 10,000	(11,000 to 22,000)	0.9	(3)
10,000 to 15,000	(22,000 to 33,000)	0.6	(2)
More than 15,000	(More than 33,000).	0.3	(1)

(8) *Corner drop.* A free drop onto each corner of the package in succession, or in the case of a cylindrical package onto each quarter of each rim, from a height of 0.3 m (one ft.) onto a flat, essentially unyielding, horizontal surface. This test applies only to fiberboard or wood rectangular packages not exceeding 50 kg (110 pounds) and fiberboard or wood cylindrical packages not exceeding 100 kg (220 pounds).

(9) *Compression.* For packages weighing up to 5000 kg, the package must be subjected, for a period of 24 hours, to a compressive load applied uniformly to the top and bottom of the package in the position in which the package would normally be transported. The compressive load must be the greater of the following:

(i) The equivalent of five times the weight of the package; or

(ii) The equivalent of 12.75 kilopascal (1.85 lb/in^2) multiplied by the vertically projected area of the package.

(10) *Penetration.* Impact of the hemispherical end of a vertical steel cylinder of 3.2 cm (1¼ in) diameter and six kg (13 lb) mass, dropped from a height of one m (40 in) onto the exposed surface of the package which is expected to be most vulnerable to puncture. The long axis of the cylinder must be perpendicular to the package surface.

§ 71.73 Hypothetical accident conditions.

(a) *Test procedures.* Evaluation for hypothetical accident conditions is to be based on sequential application of the tests specified in this section, in the order indicated, to determine their cumulative effect on a package or array of packages. An undamaged specimen must be used for the water immersion test specified in paragraph (c)(5) of this section.

(b) *Test conditions.* With respect to the initial conditions for the tests, except for the water immersion tests, to demonstrate compliance with the requirements of this part during testing, the ambient air temperature before and after the tests must remain constant at that value between −29°C (−20°F) and +38°C (100°F) which is most unfavorable for the feature under consideration. The initial internal pressure within the containment system must be the maximum normal operating pressure unless a lower internal pressure consistent with the ambient temperature assumed to precede and follow the tests is more unfavorable.

(c) *Tests.* Tests for hypothetical accident conditions must be conducted as follows:

(1) *Free Drop.* A free drop of the specimen through a distance of nine m (30 ft) onto a flat, essentially unyielding, horizontal surface, striking the surface in a position for which maximum damage is expected.

(2) *Puncture.* A free drop of the specimen through a distance of one m (40 in) in a position for which maximum damage is expected, onto the upper end of a solid, vertical, cylindri-

cal, mild steel bar mounted on an essentially unyielding, horizontal surface. The bar must be 15 cm (six in) in diameter, with the top horizontal and its edge rounded to a radius of not more than six mm (¼ in) and of a length as to cause maximum damage to the package, but not less than 20 cm (eight in) long. The long axis of the bar must be vertical.

(3) *Thermal.* Exposure of the whole specimen for not less than 30 minutes to a heat flux not less than that of a radiation environment of 800°C (1475°F) with an emissivity coefficient of at least 0.9. For purposes of calculation, the surface absorptivity must be either that value which the package may be expected to possess if exposed to a fire or 0.8, whichever is greater. In addition, when significant, convective heat input must be included on the basis of still, ambient air at 800°C (1475°F). Artificial cooling must not be applied after cessation of external heat input and any combustion of materials of construction must be allowed to proceed until it terminates naturally. The effects of solar radiation may be neglected prior to, during, and following the test.

(4) *Immersion—fissile material.* For fissile material, in those cases where water inleakage has not been assumed for criticality analysis, the specimen must be immersed under a head of water of at least 0.9 m (three ft) for a period of not less than eight hours and in the attitude for which maximum leakage is expected.

(5) *Immersion—all packages.* A separate, undamaged specimen must be subjected to water pressure equivalent to immersion under a head of water of at least 15 m (50 ft) for a period of not less than eight hours. For test purposes, an external pressure of water of 147 kilopascal (21 psi) gauge is considered to meet these conditions.

§ 71.75 Qualification of special form radioactive material.

(a) Evaluation of the contents of a single package for qualification as special form must include a determination of the effect on a specimen of those contents of the tests specified in § 71.77.

(1) Specimens (solid radioactive material or capsules) to be tested must be as normally prepared for loading in a single package, with the radioactive material duplicated as closely as practicable.

(2) A different specimen may be used for each of the tests.

(b) The specimen must not break or shatter when subjected to the impact, percussion, or bending tests.

(c) The specimen must not melt or disperse when subjected to the heat test.

(d) After each test, leak-tightness or indispersibility of the specimen must be determined by a method no less sensitive than the following leaching assessment procedure. For a capsule resistant to corrosion by water, and which has an internal void volume greater than 0.1 milliliters, an alternative to the leaching assessment is a demonstration of leak-tightness of 10^{-4} torr-l/s (1.3×10^{-4} atm cm^3/s) (based on air at 25°C and one atmosphere differential pressure) for solid radioactive content, or 10^{-6} torr-l/s (1.3×10^{-6} atm cm^3/s) for liquid or gaseous radioactive content.

(1) The specimen must be immersed for seven days in water at ambient temperature. The water must have a pH of 6–8 and a maximum conductivity of 10 μmho/cm at 20°C (68°F). Encapsulated material is not subject to the seven-day requirement.

(2) The water with specimen must then be heated to a temperature of 50°±5°C (122°±9°F) and maintained at this temperature for four hours.

(3) The activity of the water must be determined at that time.

(4) The specimen must then be stored for at least seven days in still air of humidity not less than 90% and a temperature not less than 30°C (86°F).

(5) The specimen must then be immersed in water having a pH of 6-8 and a maximum conductivity of 10 μmho/cm at 20°C, and the water with specimen heated to 50°±5°C (122°±9°F) and maintained at this temperature for four hours.

(6) The activity of the water must be determined at that time.

(7) The activities determined in paragraphs (c)(3) and (6) of this section must not exceed 0.05 μCi.

[48 FR 35607, Aug. 5, 1983; 48 FR 38449, Aug. 24, 1983; 48 FR 51903, Nov. 15, 1983]

§ 71.77 Tests for special form radioactive material.

(a) *Impact test.* The specimen must fall onto a flat, horizontal, essentially unyielding surface from a height of not less than nine m (30 ft).

(b) *Percussion test.* The specimen must be placed on a sheet of lead which is supported by a smooth solid surface and struck by the flat face of a steel billet so as to produce an impact equivalent to that resulting from a free fall of 1.4 kg (three lb.) through one m (40 in.). The flat face of the billet must be 25 mm (one in.) in diameter with the edges rounded to a radius of three mm (0.12 in.)±0.3 mm (0.012 in.). The lead, of hardness number 3.5 to 4.5 on the Vickers scale and not more than 25 mm (one in.) thick, must cover an area greater than that covered by the specimen. A fresh surface of lead must be used for each impact. The billet must strike the specimen so as to cause maximum damage.

(c) *Bending test.* The test is applicable only to long, slender sources with both a minimum length of 10 cm (four in.) and a length to minimum width ratio not less than 10. The specimen must be rigidly clamped in a horizontal position so that one-half of its length protrudes from the face of the clamp. The orientation of the specimen must be such that the specimen will suffer maximum damage when its free end is struck by the flat face of a steel billet. The billet must strike the specimen so as to produce an impact equivalent to that resulting from a free vertical fall of 1.4 kg (three lb.) through one m (40 in.). The flat face of the billet must be 25 mm (one in.) in diameter with the edges rounded off to a radius of three mm (0.12 in.)±0.3 mm (0.012 in.).

(d) *Heat test.* The specimen must be heated to a temperature of not less than 800°C (1475°F) in an atmosphere which is essentially air, and held at that temperature for a period of 10 minutes and must then be allowed to cool.

[48 FR 35607, Aug. 5, 1983; 48 FR 38450, Aug. 24, 1983]

Subpart G—Operating Controls and Procedures

§ 71.81 Applicability of operating controls and procedures.

A licensee subject to this part, who under a general or specific license transports licensed material or delivers licensed material to a carrier for transport, shall comply with the requirements of this subpart G, with the quality assurance requirements of subpart H of this part, and with the general provisions of subpart A of this part.

§ 71.83 Assumptions as to unknown properties.

When the isotopic abundance, mass, concentration, degree of irradiation, degree of moderation, or other pertinent property of fissile material in any package is not known, the licensee shall package the fissile material as if the unknown properties have credible values that will cause the maximum nuclear reactivity.

§ 71.85 Preliminary determinations.

Prior to the first use of any packaging for the shipment of licensed material:

(a) The licensee shall ascertain that there are no cracks, pinholes, uncontrolled voids, or other defects which could significantly reduce the effectiveness of the packaging;

(b) Where the maximum normal operating pressure will exceed 34.3 kilopascal (5 psi) gauge, the licensee shall test the containment system at an internal pressure at least 50% higher than the maximum normal operating pressure to verify the capability of that system to maintain its structural integrity at that pressure.

(c) The licensee shall conspicuously and durably mark the packaging with its model number, gross weight, and a package identification number assigned by the Nuclear Regulatory Commission. Prior to applying the model number, the licensee shall determine that the packaging has been fabricated in accordance with the design approved by the Commission.

§ 71.87 Routine determinations.

Prior to each shipment of licensed material, the licensee shall ensure that the package with its contents satisfies the applicable requirements of this part and of the license. The licensee shall determine that:

(a) The package is proper for the contents to be shipped;

(b) The package is in unimpaired physical condition except for superficial defects such as marks or dents;

(c) Each closure device of the packaging, including any required gasket, is properly installed and secured and free of defects;

(d) Any system for containing liquid is adequately sealed and has adequate space or other specified provision for expansion of the liquid;

(e) Any pressure relief device is operable and set in accordance with written procedures;

(f) The package has been loaded and closed in accordance with written procedures;

(g) For fissile material, any moderator or neutron absorber, if required, is present and in proper condition;

(h) Any structural part of the package which could be used to lift or tie down the package during transport is rendered inoperable for that purpose unless it satisfies the design requirements of § 71.45;

(i)(1) The level of non-fixed (removable) radioactive contamination on the external surfaces of each package offered for shipment is as low as reasonably achievable. The level of non-fixed radioactive contamination may be determined by wiping an area of 300 square centimeters of the surface concerned with an absorbent material, using moderate pressure, and measuring the activity on the wiping material. Sufficient measurements must be taken in the most appropriate locations to yield a representative assessment of the non-fixed contamination levels. Except as provided under paragraph (i)(2) of this section, the amount of radioactivity measured on any single wiping material when averaged over the surface wiped, must not exceed the limits given in Table V of this part at any time during transport. Other methods of assessment of equal or greater efficiency may be used. When other methods are used, the detection efficiency of the method used must be taken into account and in no case may the non-fixed contamination on the external surfaces of the package exceed ten times the limits listed in Table V.

TABLE V—REMOVABLE EXTERNAL RADIOACTIVE CONTAMINATION WIPE LIMITS

Contaminent	Maximum permissible limits	
	μCi/cm²	dpm/cm²
Beta-gamma emitting radionuclides; all radionuclides with half-lives less than ten days; natural uranium; natural thorium; uranium-235; uranium-238; thorium-232; thorium-228 and thorium-230 when contained in ores or physical concentrates	10^{-5}	22
All other alpha emitting radionuclides	10^{-6}	2.2

(2) In the case of packages transported as exclusive use shipments by rail or highway only, the non-fixed radioactive contamination at any time during transport must not exceed ten times the levels prescribed in paragraph (i)(1) of this section. The levels at the beginning of transport must not exceed the levels prescribed in paragraph (i)(1) of this section;

(j) External radiation levels around the package and around the vehicle, if applicable, will not exceed the limits specified in § 71.47 at any time during transportation; and

(k) Accessible package surface temperatures will not exceed the limits specified in § 71.43(g) at any time during transportation.

[48 FR 35607, Aug. 5, 1983; 48 FR 38450, Aug. 24, 1983]

§ 71.88 Air transport of plutonium.

(a) Notwithstanding the provisions of any general licenses and notwithstanding any exemptions stated directly in this part or included indirectly by citation of 49 CFR Chapter 1, as may be applicable, the licensee shall assure that plutonium in any form, whether for import, export, or domestic shipment, is not transported by air or delivered to a carrier for air transport unless:

(1) The plutonium is contained in a medical device designed for individual human application; or

(2) The plutonium is contained in a material in which the specific activity is not greater than 0.002 microcuries per gram of material and in which the radioactivity is essentially uniformly distributed; or

(3) The plutonium is shipped in a single package containing no more than an A_2 quantity of plutonium in any isotope or form and is shipped in accordance with § 71.5 of this part; or

(4) The plutonium is shipped in a package specifically authorized for the shipment of plutonium by air in the Certificate of Compliance for that package issued by the Commission.

(b) Nothing in paragraph (a) of this section is to be interpreted as removing or diminishing the requirements of § 73.24 of this chapter.

(c) There have been two orders issued by the NRC restricting the air shipment of plutonium in accordance with Pub. L. 94-79. The first order, issued on August 15, 1975 was superseded by the second order dated September 1, 1978, which has remained in effect since that time. As of the effective date of this rule, the outstanding order dated September 1, 1978 is revoked.

§ 71.89 Opening instructions.

Prior to delivery of a package to a carrier for transport, the licensee shall ensure that any special instructions needed to safely open the package have been sent to or otherwise made available to the consignee for the consignee's use in accordance with § 20.205 of this chapter.

§ 71.91 Records.

(a) Each licensee shall maintain for a period of three years after shipment a record of each shipment of licensed material not exempt under § 71.10, showing, where applicable:

(1) Identification of the packaging by model number;

(2) Verification that there are no significant defects in the packaging, as shipped;

(3) Volume and identification of coolant;

(4) Type and quantity of licensed material in each package, and the total quantity of each shipment;

(5) For each item of irradiated fissile material:

(i) Identification by model number and/or serial number;

(ii) Irradiation and decay history to the extent appropriate to demonstrate that its nuclear and thermal characteristics comply with license conditions; and

(iii) Any abnormal or unusual condition relevant to radiation safety.

(6) Date of the shipment;

(7) For Fissile Class III and for Type B packages, any special controls exercised;

(8) Name and address of the transferee;

(9) Address to which the shipment was made; and

(10) Results of the determinations required by § 71.87 and by the conditions of the package approval.

(b) The licensee shall make available to the Commission for inspection, upon reasonable notice, all records required by this part. Records are valid only if stamped, initialed, or signed and dated by authorized personnel or otherwise authenticated.

(c) Each licensee shall maintain sufficient written records to furnish evidence of the quality of packaging. The records to be maintained include results of the determinations required by § 71.85; design, fabrication, and assembly records; results of reviews, inspections, tests, and audits; results monitoring work performance and materials analyses; and results of maintenance, modification, and repair activities. Inspection, test, and audit records must identify the inspector or data recorder, the type of observation, the results, the acceptability and the action taken in connection with any deficiencies noted. The records must be retained for three years after the life of the packaging to which they apply.

[53 FR 19256, May 27, 1988]

§ 71.93 Inspection and tests.

(a) The licensee shall permit the Commission at all reasonable times to inspect the licensed material, packaging, premises, and facilities in which the licensed material or packaging is used, produced, tested, stored, or shipped.

(b) The licensee shall perform, and permit the Commission to perform, tests as the Commission deems necessary or appropriate for the administration of the regulations in this chapter.

(c) The licensee shall notify the Regional Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of part 73 of this chapter at least 45 days prior to fabrication of a package to be used for the shipment of licensed material having a decay heat load in excess of five kilowatts or with a maximum normal operating pressure in excess of 103 kilopascal (15psi) gauge.

[48 FR 35607, Aug. 5, 1983, as amended at 52 FR 31612, Aug. 21, 1987]

§ 71.95 Reports.

The licensee shall report to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, within 30 days:

(a) Any instance in which there is significant reduction in the effectiveness of any authorized packaging during use; and

(b) Details of any defects with safety significance in the packaging after first use, with the means employed to repair the defects and prevent their recurrence.

§ 71.97 Advance notification of shipment of nuclear waste.

(a) Except as specified in paragraph (b) of this section, prior to the transport or delivery to a carrier for transport of licensed material outside the confines of the licensee's plant or other place of use or storage, each licensee shall provide advance notification to the governor of a state, or the governor's designee, of the shipment to, through, or across the boundry of the state.

(b) Advance notification is required only when:

(1) The licensed material is required by this part to be in Type B packaging for transportation;

(2) The licensed material other tha irradiated fuel is being transported t through, or across state boundaries a disposal site or to a collection poi for transport to a disposal site;

(3) The quantity of licensed materi in a single package exceeds:

(i) 5,000 curies of special form r dionuclides;

(ii) 5,000 curies of uncomp gases of Argon-41, Krypton-85m Krypton-87, Xenon-131m, or Xeno 135;

(iii) 50,000 curies of Argon-37, or uncompressed gases of Krypton-85 Xenon-133, or of Hydrogen-3 as a g as luminous paint, or adsorbed on sol material;

(iv) 20 curies of other non-speci form radionuclides for which A_2 is le than or equal to four curies; or

(v) 200 curies of other non-speci form radionuclides for which A_2 greater than four curies; and

(4) The quantity of irradiated fuel less than that subject to advance no fication requirements of 10 CFR pa 73.

(c) *Procedures for submitting vance notification.* (1) The notifica tion must be made in writing to th office of each appropriate governor governor's designee and to the Region al Administrator of the appropria Nuclear Regulatory Commission R gional Office listed in appendix A part 73 of this chapter.

(2) A notification delivered by ma must be postmarked at least seve days before the beginning of th seven-day period during which depa ture of the shipment is estimated occur.

(3) A notification delivered by me senger must reach the office of th governor or of the governor's designe at least four days before the beginni of the seven-day period during whic departure of the shipment is estima ed to occur.

(i) A list of the names and maili addresses of the governors' designe receiving advance notification transportation of nuclear waste w published in the Federal Register June 30, 1983 (48 FR 30221).

(ii) The list will be published annua ly in the Federal Register on about June 30 to reflect any changes in information.

(iii) A list of the names and mailing addresses of the governors' designees is available upon request from the Director, Office of Governmental and Public Affairs, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(4) The licensee shall retain a copy of the notification as a record for three years.

(d) *Information to be furnished in advance notification of shipment.* Each advance notification of shipment of nuclear waste must contain the following information:

(1) The name, address, and telephone number of the shipper, carrier, and receiver of the nuclear waste shipment;

(2) A description of the nuclear waste contained in the shipment, as required by the regulations of DOT in 49 CFR 172.202 and 172.203(d);

(3) The point of origin of the shipment and the seven-day period during which departure of the shipment is estimated to occur;

(4) The seven-day period during which arrival of the shipment at state boundaries is estimated to occur;

(5) The destination of the shipment, and the seven-day period during which arrival of the shipment is estimated to occur; and

(6) A point of contact with a telephone number for current shipment information.

(e) *Revision notice.* A licensee who finds that schedule information previously furnished to a governor or governor's designee in accordance with this section will not be met, shall telephone a responsible individual in the office of the governor of the State or of the governor's designee and inform that individual of the extent of the delay beyond the schedule originally reported. The licensee shall maintain a record of the name of the individual contacted for three years.

(f) *Cancellation notice.* (1) Each licensee who cancels a nuclear waste shipment for which advance notification has been sent, shall send a cancellation notice to the governor of each state or the governor's designee previously notified and to the Regional Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of part 73 of this chapter.

(2) The licensee shall state in the notice that it is a cancellation and shall identify the advance notification which is being cancelled. The licensee shall retain a copy of the notice as a record for three years.

[48 FR 35607, Aug. 5, 1983, as amended at 52 FR 31612, Aug. 21, 1987; 53 FR 19256, May 27, 1988]

§ 71.99 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, (the Act) or Title II of the Energy Reorganization Act of 1974, as amended, or any regulation or order issued under the Acts. A court order may be obtained for the payment of a civil penalty imposed under section 234 of the Act for violation of sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, as amended; or any rule, regulation, or order issued under the Acts, or any term, condition, or limitation of any license issued under the Acts, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued under the Acts may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

Subpart H—Quality Assurance

§ 71.101 Quality assurance requirements.

(a) *Purpose.* This subpart describes quality assurance requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, and modification of components of packaging which are important to safety. As used in this subpart, "quality assurance" comprises all those planned and systematic actions necessary to provide adequate confidence that a system or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to control of the physical characteristics and quality of the material or component to predetermined requirements.

(b) Each licensee shall establish, maintain, and execute a quality assurance program satisfying each of the applicable criteria of §§ 71.101 through 71.137 of this subpart and satisfying any specific provisions that are applicable to the licensee's activities, including procurement of packaging. The licensee shall apply each of the applicable criteria in a graded approach, i.e., to an extent that is consistent with its importance to safety.

(c) *Approval of program.* Prior to the use of any package for the shipment of licensed material subject to this subpart, each licensee shall obtain Commission approval of its quality assurance program. Each licensee shall file a description of its quality assurance program, including a discussion of which requirements of this subpart are applicable and how they will be satisfied, with the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(d) *Existing package designs.* The provisions of this paragraph deal with packages which have been approved for use in accordance with this part prior to January 1, 1979, and which have been designed in accordance with the provisions of this part in effect at the time of application for package approval. Those packages will be accepted as having been designed in accordance with a quality assurance program which satisfies the provisions of paragraph (b) of this section.

(e) *Existing packages.* The provisions of this paragraph deal with packages which have been approved for use in accordance with this part prior to January 1, 1979, have been at least partially fabricated prior to that date, and for which the fabrication is in accordance with the provisions of this part in effect at the time of application for approval of package design. These packages will be accepted as having been fabricated and assembled in accordance with a quality assurance program which satisfies the provisions of paragraph (b) of this section.

(f) *Previously approved programs.* A Commission-approved quality assurance program which satisfies the applicable criteria of appendix B of part 50 of this chapter and which is established, maintained, and executed with regard to transport packages will be accepted as satisfying the requirements of paragraph (b) of this section. Prior to first use, the licensee shall notify the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, of its intent to apply its previously approved appendix B program to transportation activities. The licensee shall identify the program by date of submittal to the Commission, Docket Number, and date of Commission approval.

[48 FR 35607, Aug. 5, 1983, as amended at 53 FR 19256, May 27, 1988; 53 FR 23383, June 22, 1988]

§ 71.103 Quality assurance organization.

The licensee[3] shall be responsible for the establishment and execution of the quality assurance program. The licensee may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, or any part of the quality assurance program, but shall retain responsibility for the program. The licensee shall clearly establish and delineate in writing the authority and duties of persons and organizations performing activities affecting the safety-related functions of structures, systems and components. These activities include performing the functions associated with attaining quality objectives and the quality assurance functions. The quality assurance functions are (a) assuring that an appropriate quality assurance program is established and effectively executed and (b) verifying, by procedures such as checking, auditing, and inspection, that activities affecting the safety-related functions have been correctly performed. The persons and organizations performing quality assurance functions must have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions. The persons and organizations performing quality assurance functions shall report to a management level which assures that the required authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations, are provided. Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location or locations where activities are performed, the organizational structure for executing the quality assurance program may take various forms provided that the persons and organizations assigned the quality assurance functions have the required authority and organizational freedom. Irrespective of the organizational structure, the individual(s) assigned the responsibility for assuring effective execution of any portion of the quality assurance program at any location where activities subject to this section are being performed must have direct access to the levels of management necessary to perform this function.

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[3] While the term "licensee" is used in these criteria, the requirements are applicable to whatever design, fabrication, assembly, and testing of the package is accomplished with respect to a package prior to the time a package approval is issued.

§ 71.105 Quality assurance program.

(a) The licensee shall establish, at the earliest practicable time, consistent with the schedule for accomplishing the activities, a quality assurance program that complies with the requirements of §§ 71.101 through 71.137 of this subpart. The licensee shall document the quality assurance program by written procedures or instructions and shall carry out the program in accordance with those procedures throughout the period during which packaging is used. The licensee shall identify the material and components to be covered by the quality assurance program, the major organizations participating in the program, and the designated functions of these organizations.

(b) The licensee, through its quality assurance program, shall provide control over activities affecting the quality of the identified materials and components to an extent consistent with their importance to safety, and as necessary to assure conformance to the approved design of each individual package used for the shipment of radioactive material. The licensee shall assure that activities affecting quality are accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The licensee shall take into account the need for special controls, processes, test equipment, tools and skills to attain the required quality, and the need for verification of quality by inspection and test.

(c) The licensee shall base the requirements and procedures of its quality assurance program on the following considerations concerning the complexity and proposed use of the package and its components:

(1) The impact of malfunction or failure of the item to safety;

(2) The design and fabrication complexity or uniqueness of the item;

(3) The need for special controls and surveillance over processes and equipment;

(4) The degree to which functional compliance can be demonstrated by inspection or test; and

(5) The quality history and degree of standardization of the item.

(d) The licensee shall provide for indoctrination and training of personnel performing activites affecting quality as necessary to assure that suitable proficiency is achieved and maintained. The licensee shall review the status and adequacy of the quality assurance program at established intervals. Management of other organizations participating in the quality assurance program shall regularly review the status and adequacy of that part of the quality assurance program which they are executing.

[48 FR 35607, Aug. 5, 1983, as amended at 53 FR 19256, May 27, 1988]

§ 71.107 Package design control.

(a) The licensee shall establish measures to assure that applicable regulatory requirements and the package design, as specified in the license for those materials and components to which this section applies, are correctly translated into specifications, drawings, procedures, and instructions. These measures must include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from standards are controlled. Measures must be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the materials, parts, and components of the packaging.

(b) The licensee shall establish measures for the identification and control of design interfaces and for coordination among participating design organizations. These measures must include the establishment of written procedures among participating design organizations for the review, approval, release, distribution, and revision of documents involving design interfaces. The design control measures must provide for verifying or checking the adequacy of design, by methods such as design reviews, alternate or simplified calculational methods, or by a suitable testing program. For the verifying or checking process, the licensee shall designate individuals or groups other than those who were responsible for the original design, but who may be from the same organization. Where a test program is used to verify the adequacy of a specific design feature in lieu of other verifying or checking processes, the licensee shall include suitable qualification testing of a prototype or sample unit under the most adverse design conditions. The licensee shall apply design control measures to items such as the following: criticality physics, radiation shielding, stress, thermal, hydraulic, and accident analyses; compatibility of materials; accessibility for inservice inspection, maintenance, and repair; features to facilitate decontamination; and delineation of acceptance criteria for inspections tests.

(c) The licensee shall subject design changes, including field changes, to design control measures commensurate with those applied to the original design. Changes in the conditions specified in the package approval require NRC approval.

[48 FR 35607, Aug. 5, 1983; 48 FR 38450, Aug. 24, 1983]

§ 71.109 Procurement document control.

The licensee shall establish measures to assure adequate quality is required in the documents for procurement of material, equipment, and services, whether purchased by the licensee or by its contractors or subcontractors. To the extent necessary, the licensee shall require contractors or subcontractors to provide a quality assurance program consistent with the applicable provisions of this part.

§ 71.111 Instructions, procedures, and drawings.

The licensee shall prescribe activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall require that these instructions, procedures, and drawings be followed. The instructions, procedures, and drawings must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

§ 71.113 Document control.

The licensee shall establish measures to control the issuance of documents such as instructions, procedures, and drawings, including changes, which prescribe all activities affecting quality. These measures must assure that documents, including changes, are reviewed for adequacy, approved for release by authorized personnel, and distributed and used at the location where the prescribed activity is performed. These measures must assure that changes to documents are reviewed and approved.

§ 71.115 Control of purchased material, equipment, and services.

(a) The licensee shall establish measures to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures must include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery.

(b) The licensee shall have available documentary evidence that material and equipment conform to the procurement specifications prior to installation or use of the material and equipment. The licensee shall retain or have available this documentary evidence for the life of the package to which it applies. The licensee shall assure that the evidence is sufficient to identify the specific requirements met by the purchased material and equipment.

(c) The licensee or designee shall assess the effectiveness of the control of quality by contractors and subcontractors at intervals consistent with the importance, complexity, and quantity of the product or services.

§ 71.117 Identification and control of materials, parts, and components.

The licensee shall establish measures for the identification and control of materials, parts, and components. These measures must assure that identification of the item is maintained by heat number, part number, or other appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, installation, and use of the item. These identification and control measures must be designed to prevent the use of incorrect or defective materials, parts, and components.

§ 71.119 Control of special processes.

The licensee shall establish measures to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

§ 71.121 Internal inspection.

The licensee shall establish and execute a program for inspection of activities affecting quality by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. The inspection must be performed by individuals other than those who performed the activity being inspected. Examination, measurements, or tests of material or products processed must be performed for each work operation where necessary to assure quality. If direct inspection of processed material or products is not carried out, indirect control by monitoring processing methods, equipment, and personnel must be provided. Both inspection and process monitoring must be provided when quality control is inadequate without both. If mandatory inspection hold points, which require witnessing or inspecting by the licensee's designated representative and beyond which work should not proceed without the consent of its designated representative, are required, the specific hold points must be indicated in appropriate documents.

§ 71.123 Test control.

The licensee shall establish a test program to assure that all testing required to demonstrate that the packaging components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements of this part and the requirements and acceptance limits contained in the package approval. The test procedures must include provisions for assuring that all prerequisites for the given test are met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. The licensee shall document and evaluate the test results to assure that test requirements have been satisfied.

§ 71.125 Control of measuring and test equipment.

The licensee shall establish measures to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified times to maintain accuracy within necessary limits.

§ 71.127 Handling, storage, and shipping control.

The licensee shall establish measures to control, in accordance with instructions, the handling, storage, shipping, cleaning, and preservation of materials and equipment to be used in packaging to prevent damage or deterioration. When necessary for particular products, special protective environments, such as inert gas atmosphere, and specific moisture content and temperature levels must be specified and provided.

§ 71.129 Inspection, test, and operating status.

(a) The licensee shall establish measures to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the packaging. These measures must provide for the identification of items which have satisfactorily passed required inspections and tests where necessary to preclude inadvertent bypassing of the inspections and tests.

(b) The licensee shall establish measures to identify the operating status of components of the packaging, such as tagging valves and switches, to prevent inadvertent operation.

§ 71.131 Nonconforming materials, parts, or components.

The licensee shall establish measures to control materials, parts, or components which do not conform to the licensee's requirements in order to prevent their inadvertent use or installation. These measures must include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items must be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures.

§ 71.133 Corrective action.

The licensee shall establish measures to assure that conditions adverse to quality, such as deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of a significant condition adverse to quality, the measures must assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken must be documented and reported to appropriate levels of management.

§ 71.135 Quality assurance records.

The licensee shall maintain sufficient written records to describe the activities affecting quality. The records must include the instructions, procedures, and drawings required by § 71.111 to prescribe quality assurance activities and must include closely related specifications such as required qualifications of personnel, procedures, and equipment. The records must include the instructions or procedures which establish a records retention program that is consistent with applicable regulations and designates factors such as duration, location, and assigned responsibility. The licensee shall retain these records for three years beyond the date when the licensee last engages in the activity for which the quality assurance program was developed. If any portion of the written procedures or instructions is superseded, the licensee shall retain the superseded material for three years after it is superseded.

[53 FR 19256, May 27, 1988]

§ 71.137 Audits.

The licensee shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits must be performed in accordance with written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audited results must be documented and reviewed by management having responsibility in the area audited. Follow-up action, including re-audit of deficient areas, must be taken where indicated.

APPENDIX A—DETERMINATION OF A_1 AND A_2

I. SINGLE RADIONUCLIDES

(1) For a single radionuclide of known identity, the values of A_1 and A_2 are taken from Table A-1 if listed there. The values A_1 and A_2 in Table A-1 are also applicable for radionuclides contained in (α, n) or (γ, n) neutron sources.

(2) For any single radionuclide whose identity is known but which is not listed in Table A-1, the values of A_1 and A_2 are determined according to the following procedure:

(a) If the radionuclide emits only one type of radiation, A_1 is determined according to the rules in paragraphs (i), (ii), (iii) and (iv) of this paragraph. For radionuclides emitting different kinds of radiation, A_1 is the most restrictive value of those determined for each kind of radiation. However, in both cases, A_1 is restricted to a maximum of 1000 Ci. If a parent nuclide decays into a shorter lived daughter with a half-life not greater than 10 days, A_1 is calculated for both the parent and the daughter, and the more limiting of the two values is assigned to the parent nuclide.

(i) For gamma emitters, A_1 is determined by the expression:

$$A_1 = \frac{9}{\Gamma} \text{ curies}$$

where Γ is the gamma-ray constant, corresponding to the dose in R/h at 1 m per Ci; the number 9 results from the choice of 1 rem/h at a distance of 3 m as the reference dose-equivalent rate.

(ii) For X-ray emitters, A_1 is determined by the atomic number of the nuclide:

for $Z \leq 55$—$A_1 = 1000$ Ci
for $Z > 55$—$A_1 = 200$ Ci

where Z is the atomic number of the nuclide.

(iii) For beta emitters, A_1 is determined by the maximum beta energy (E_{max}) according to Table A-2;

(iv) For alpha emitters, A_1 is determined by the expression:

$A_1 = 1000\ A_2$

where A_2 is the value listed in Table A-3;

(b) A_2 is the more restrictive of the following two values:

(i) The corresponding A_1; and

(ii) The value A_2 obtained from Table A-3.

(3) For any single radionuclide whose identity is unknown, the value of A_1 is taken to be two Ci and the value of A_2 is taken to be 0.002 Ci. However, if the atomic number of the radionuclide is known to be less than 82, the value of A_1 is taken to be 10 Ci and the value of A_2 is taken to be 0.4 Ci.

II. MIXTURES OF RADIONUCLIDES, INCLUDING RADIOACTIVE DECAY CHAINS

(1) For mixed fission products the following activity limits may be assumed if a detailed analysis of the mixture is not carried out:

$A_1 = 10$ Ci
$A_2 = 0.4$ Ci

(2) A single radioactive decay chain is considered to be a single radionuclide when the radionuclides are present in their naturally occurring proportions and no daughter nuclide has a half-life either longer than 10 days or longer than that of the parent nuclide. The activity to be taken into account and the A_1 or A_2 value from Table A-1 to be applied are those corresponding to the parent nuclide of that chain. When calculating A_1 or A_2 values, radiation emitted by daughters must be considered. However, in the case of radioactive decay chains in which any daughter nuclide has a half-life either longer than 10 days or greater than that of the parent nuclide, the parent and daughter nuclides are considered to be mixtures of different nuclides.

(3) In the case of a mixture of different radionuclides, where the identity and activity of each radionuclide are known, the permissible activity of each radionuclide R_1, R_2 . . . R_n is such that $F_1 + F_2 + \ldots F_n$ is not greater than unity, where

$$F_1 = \frac{\text{Total activity of } R_1}{A_i(R_1)}$$

$$F_2 = \frac{\text{Total activity of } R_2}{A_i(R_2)}$$

$$F_n = \frac{\text{Total activity of } R_n}{A_i(R_n)}$$

$A_i(R_1, R_2 . . R_n)$ is the value of A_1 or A_2 as appropriate for the nuclide $R_1, R_2 . . R_n$.

(4) When the identity of each radionuclide is known but the individual activities of some of the radionuclides are not known, the formula given in paragraph (3) is applied to establish the values of A_1 or A_2 as appropriate. All the radionuclides whose individual activities are not known (their total activity will, however, be known) are classed in a single group and the most restric value of A_1 and A_2 applicable to any one them is used as the value of A_1 or A_2 in th denominator of the fraction.

(5) Where the identity of each radio clide is known but the individual activity none of the radionuclides is known, th most restrictive value of A_1 or A_2 applica to any one of the radionuclides present adopted as the applicable value.

(6) When the identity of none of the clides is known, the value of A_1 is taken be two Ci and the value of A_2 is taken to 0.002 Ci. However, if alpha emitters known to be absent, the value of A_2 is tak to be 0.4 Ci.

TABLE A-1—A_1 AND A_2 VALUES FOR RADIONUCLIDES

(See footnotes at end of Table A-1)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/
227_{Ac}	Actinium (89)	1000	0.003	7.2x
228_{Ac}		10	4	2.2x
105_{Ag}	Silver (47)	40	40	3.1x
$110m_{Ag}$		7	7	4.7x
111_{Ag}		100	20	1.6x
241_{Am}	Americium (95)	8	0.008	
243_{Am}		8	0.008	1.9x
37_{Ar} (compressed or uncompressed)*.	Argon (18)	1000	1000	1.0x
41_{Ar} (uncompressed)*		20	20	4.3x
41_{Ar} (compressed)*		1	1	4.3x
73_{As}	Arsenic (33)	1000	400	2.4x
74_{As}		20	20	1.0x
76_{As}		10	10	1.6x
77_{As}		300	20	1.1x
211_{At}	Astatine (85)	200	7	2.1x
193_{Au}	Gold (79)	200	200	9.3x
196_{Au}		30	30	1.2x
198_{Au}		40	20	2.5x
199_{Au}		200	25	2.1x
131_{Ba}	Barium (56)	40	40	8.7x
133_{Ba}		40	10	4.0x
140_{Ba}		20	20	7.3x
7_{Be}	Beryllium (4)	300	300	3.5x
206_{Bi}	Bismuth (83)	5	5	9.9x
207_{Bi}		10	25	2.2x
210_{Bi} (RaE)		100	4	1.2x
212_{Bi}		6	6	1.5x
249_{Bk}	Berkelium (97)	1000	1	1.8x
77_{Br}	Bromine (35)	70	25	7.1x
82_{Br}		6	6	1.1x
11_{C}	Carbon (6)	20	20	8.4x
14_{C}		1000	60	
45_{Ca}	Calcium (20)	1000	25	1.8x
47_{Ca}		20	20	5.9x

TABLE A-1—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of Table A-1)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
109_{Cd}	Cadmium (48)	1000	70	2.6×10^{3}
$115m_{Cd}$		30	30	2.6×10^{4}
115_{Cd}		80	20	5.1×10^{5}
139_{Ce}	Cerium (58)	100	100	6.5×10^{3}
141_{Ce}		300	25	2.8×10^{4}
143_{Ce}		60	20	6.6×10^{5}
144_{Ce}		10	7	3.2×10^{3}
249_{Cf}	Californium (98)	2	0.002	3.1
250_{Cf}		7	0.007	1.3×10^{2}
252_{Cf}		2	0.009	6.5×10^{2}
36_{Cl}	Chlorine (17)	300	10	3.2×10^{-2}
38_{Cl}		10	10	1.3×10^{8}
242_{Cm}	Curium (96)	200	0.2	3.3×10^{3}
243_{Cm}		9	0.009	4.2×10
244_{Cm}		10	0.01	8.2×10
245_{Cm}		6	0.006	1.0×10^{-1}
246_{Cm}		6	0.006	3.6×10^{-1}
56_{Co}	Cobalt (27)	5	5	3.0×10^{4}
57_{Co}		90	90	8.5×10^{3}
$58m_{Co}$		1000	1000	5.9×10^{6}
58_{Co}		20	20	3.1×10^{4}
60_{Co}		7	7	1.1×10^{3}
51_{Cr}	Chromium (24)	600	600	9.2×10^{4}
129_{Cs}	Cesium (55)	40	40	7.6×10^{5}
131_{Cs}		1000	1000	1.0×10^{5}
$134m_{Cs}$		1000	10	7.4×10^{6}
134_{Cs}		10	10	1.2×10^{3}
135_{Cs}		1000	25	8.8×10^{-4}
136_{Cs}		7	7	7.4×10^{4}
137_{Cs}		30	10	9.8×10
64_{Cu}	Copper (29)	80	25	3.8×10^{6}
67_{Cu}		200	25	7.9×10^{5}
165_{Dy}	Dysprosium (66)	100	20	8.2×10^{6}
166_{Dy}		1000	200	2.3×10^{5}
169_{Er}	Erbium (68)	1000	25	8.2×10^{4}
171_{Er}		50	20	2.4×10^{6}
$152m_{Eu}$	Europium (63)	30	30	2.2×10^{6}
152_{Eu}		20	10	1.9×10^{2}
154_{Eu}		10	5	1.5×10^{2}
155_{Eu}		400	60	1.4×10^{3}
18_{F}	Fluorine (9)	20	20	9.3×10^{7}
52_{Fe}	Iron (26)	5	5	7.3×10^{6}
55_{Fe}		1000	1000	2.2×10^{3}
59_{Fe}		10	10	4.9×10^{4}
67_{Ga}	Gallium (31)	100	100	6.0×10^{5}
68_{Ga}		20	20	4.0×10^{7}
72_{Ga}		7	7	3.1×10^{6}
153_{Gd}	Gadolinium (64)	200	100	3.6×10^{3}
159_{Gd}		300	20	1.1×10^{6}
68_{Ge}	Germanium (32)	20	10	7.0×10^{3}
71_{Ge}		1000	1000	1.6×10^{5}

TABLE A-1—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of Table A-1)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/
3_{H}	Hydrogen (1) see T-Tritium.			
181_{Hf}	Hafnium (72)	30	25	1.6×1
$197m_{Hg}$	Mercury (80)	200	200	6.6×1
197_{Hg}		200	200	2.5×1
203_{Hg}		80	25	1.4×1
166_{Ho}	Holmium (67)	30	30	6.9×1
123_{I}	Iodine (53)	50	50	1.9×1
125_{I}		1000	70	1.7×1
126_{I}		40	10	7.8×1
129_{I}		1000	2	1.6×1
131_{I}		40	10	1.2×1
132_{I}		7	7	1.1×1
133_{I}		30	10	1.1×1
134_{I}		8	8	2.7×1
135_{I}		10	10	3.5×1
111_{In}	Indium (49)	30	25	4.2×1
$113m_{In}$		60	60	1.6×1
$114m_{In}$		30	20	2.3×1
$115m_{In}$		100	20	6.1×1
190_{Ir}	Iridium (77)	10	10	6.2×1
192_{Ir}		20	10	9.1×1
194_{Ir}		10	10	8.5×1
42_{K}	Potassium (19)	10	10	6.0×1
43_{K}		20	10	3.3×1
$85m_{Kr}$ (uncompressed)*.	Krypton (36)	100	100	8.4×1
$85m_{Kr}$ (compressed)*		3	3	8.4×1
85_{Kr} (uncompressed)*		1000	1000	4.0×1
85_{Kr} (compressed)*		5	5	4.0×1
87_{Kr} (uncompressed)*		20	20	2.8×1
87_{Kr} (compressed)*		0.6	0.6	2.8×1
140_{La}	Lanthanum (57)	30	30	5.6×1
$_{LSA}$	Low specific activity material—see § 71.4.			
177_{Lu}	Lutetium (71)	300	25	1.1×1
$_{MFP}$	Mixed fission products	10	0.4	
28_{Mg}	Magnesium (12)	6	6	5.2×1
52_{Mn}	Manganese (25)	5	5	4.4×1
54_{Mn}		20	20	8.3×1
56_{Mn}		5	5	2.2×1
99_{Mo}	Molybdenum (42)	100	20	4.7×1
13_{N}	Nitrogen (7)	20	10	1.5×1
22_{Na}	Sodium (11)	8	8	6.3×1
24_{Na}		5	5	8.7×1
$93m_{Nb}$	Niobium (41)	1000	200	1.1×1
95_{Nb}		20	20	3.9×1
97_{Nb}		20	20	2.6×1
147_{Nd}	Neodymium (60)	100	20	8.0×1
149_{Nd}		30	20	1.1×1
59_{Ni}	Nickel (28)	1000	900	8.1×1

TABLE A-1—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of Table A-1)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
63_{Ni}		1000	100	4.6×10
65_{Ni}		10	10	1.9×10^{7}
237_{Np}	Neptunium (93)	5	0.005	6.9×10^{-4}
239_{Np}		200	25	2.3×10^{5}
185_{Os}	Osmium (76)	20	20	7.3×10^{3}
191_{Os}		600	200	4.6×10^{4}
$191m_{Os}$		200	200	1.2×10^{6}
193_{Os}		100	20	5.3×10^{5}
32_{P}	Phosphorus (15)	30	30	2.9×10^{5}
230_{Pa}	Protactinium (91)	20	0.8	3.2×10^{4}
231_{Pa}		2	0.002	4.5×10^{-2}
233_{Pa}		100	100	2.1×10^{4}
201_{Pb}	Lead (82)	20	20	1.7×10^{6}
210_{Pb}		100	0.2	8.8×10
212_{Pb}		6	5	1.4×10^{6}
103_{Pd}	Palladium (46)	1000	700	7.5×10^{4}
109_{Pd}		100	20	2.1×10^{6}
147_{Pm}	Promethium (61)	1000	25	9.4×10^{2}
149_{Pm}		100	20	4.2×10^{5}
210_{Po}	Polonium (84)	200	0.2	4.5×10^{3}
142_{Pr}	Praseodymium (59)	10	10	1.2×10^{4}
143_{Pr}		300	20	6.6×10^{4}
191_{Pt}	Platinum (78)	100	100	2.3×10^{5}
$193m_{Pt}$		200	200	2.0×10^{5}
$197m_{Pt}$		300	20	1.2×10^{7}
197_{Pt}		300	20	8.8×10^{5}
238_{Pu}	Plutonium (94)	3	0.003	1.7×10
239_{Pu}		2	0.002	6.2×10^{-2}
240_{Pu}		2	0.002	2.3×10^{-1}
241_{Pu}		1000	0.1	1.1×10^{2}
242_{Pu}		3	0.003	3.9×10^{-3}
223_{Ra}	Radium (88)	50	0.2	5.0×10^{4}
224_{Ra}		6	0.5	1.6×10^{5}
226_{Ra}		10	0.05	1.0
228_{Ra}		10	0.05	2.3×10^{2}
81_{Rb}	Rubidium (37)	30	25	8.2×10^{6}
86_{Rb}		30	30	8.1×10^{4}
87_{Rb}		Unlimited.	Unlimited.	5.6×10^{-8}
$_{Rb}$ (natural)		Unlimited.	Unlimited.	1.8×10^{-8}
186_{Re}	Rhenium (75)	100	20	1.9×10^{5}
187_{Re}		Unlimited.	Unlimited.	3.8×10^{-8}
188_{Re}		10	10	1.0×10^{6}
$_{Re}$ (natural)		Unlimited.	Unlimited.	2.4×10^{-8}
$103m_{Rh}$	Rhodium (45)	1000	1000	3.2×10^{7}
105_{Rh}		200	25	8.2×10^{5}
222_{Rn}	Radon (86)	10	2	1.5×10^{5}
97_{Ru}	Ruthenium (44)	80	80	5.5×10^{5}
103_{Ru}		30	25	3.2×10^{4}
105_{Ru}		20	20	6.6×10^{6}
106_{Ru}		10	7	3.4×10^{3}
35_{S}	Sulphur (16)	1000	60	4.3×10^{4}

TABLE A-1—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of Table A-1)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
122_{Sb}	Antimony (51)	30	30	3.9×10^{5}
124_{Sb}		5	5	1.8×10^{4}
125_{Sb}		40	25	1.4×10^{3}
46_{Sc}	Scandium (21)	8	8	3.4×10^{4}
47_{Sc}		200	20	8.2×10^{5}
48_{Sc}		5	5	1.5×10^{6}
75_{Se}	Selenium (34)	40	40	1.4×10^{4}
31_{Si}	Silicon (14)	100	20	3.9×10^{7}
147_{Sm}	Samarium (62)	Unlimited.	Unlimited.	2.0×10^{-8}
151_{Sm}		1000	90	2.6×10^{1}
153_{Sm}		300	20	4.4×10^{5}
113_{Sn}	Tin (50)	60	60	1.0×10^{4}
$119m_{Sn}$		100	100	4.4×10^{3}
125_{Sn}		10	10	1.1×10^{5}
$85m_{Sr}$	Strontium (38)	80	80	3.2×10^{7}
85_{Sr}		30	30	2.4×10^{4}
$87m_{Sr}$		50	50	1.2×10^{7}
89_{Sr}		100	10	2.9×10^{4}
90_{Sr}		10	0.4	1.5×10^{2}
91_{Sr}		10	10	3.6×10^{6}
92_{Sr}		10	10	1.3×10^{7}
$_T$ (uncompressed)*	Tritium (1)	1000	1000	9.7×10^{3}
$_T$ (compressed)*		1000	1000	9.7×10^{3}
$_T$ (activated luminous paint).		1000	1000	9.7×10^{3}
$_T$ (adsorbed on solid carrier).		1000	1000	9.7×10^{3}
$_T$ (tritiated water)		1000	1000	9.7×10^{3}
$_T$ (other forms)		20	20	9.7×10^{3}
182_{Ta}	Tantalum (73)	20	20	6.2×10^{3}
160_{Tb}	Terbium (65)	20	10	1.1×10^{4}
$96m_{Tc}$	Technetium (43)	1000	1000	3.8×10^{7}
96_{Tc}		6	6	3.2×10^{5}
$97m_{Tc}$		1000	200	1.5×10^{4}
97_{Tc}		1000	400	1.4×10^{-3}
$99m_{Tc}$		100	100	5.2×10^{6}
99_{Tc}		1000	25	1.7×10^{-2}
$125m_{Te}$	Tellurium (52)	1000	100	1.8×10^{4}
$127M_{Te}$		300	20	4.0×10^{4}
127_{Te}		300	20	2.6×10^{6}
$129M_{Te}$		30	10	2.5×10^{4}
129_{Te}		100	20	2.0×10^{7}
$131m_{Te}$		10	10	8.0×10^{5}
132_{Te}		7	7	3.1×10^{5}
227_{Th}	Thorium (90)	200	0.2	3.2×10^{4}
228_{Th}		6	0.008	8.3×10^{2}
230_{Th}		3	0.003	1.9×10^{-2}
231_{Th}		1000	25	5.3×10^{5}
232_{Th}		Unlimited.	Unlimited.	1.1×10^{-7}
234_{Th}		10	10	2.3×10^{4}
$_{Th}$ (natural)		Unlimited.	Unlimited.	2.2×10^{-7}

TABLE A-1—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of Table A-1)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
(irradiated)**				
200$_{Tl}$	Thallium (81)	20	20	5.8×10^{5}
201$_{Tl}$		200	200	2.2×10^{5}
202$_{Tl}$		40	40	5.4×10^{4}
204$_{Tl}$		300	10	4.3×10^{3}
170$_{Tm}$	Thulium (69)	300	10	6.0×10^{3}
171$_{Tm}$		1000	100	1.1×10^{3}
230$_{U}$	Uranium (92)	100	0.1	2.7×10^{4}
232$_{U}$		30	0.03	2.1×10
233$_{U}$		100	0.1	9.5×10^{-3}
234$_{U}$		100	0.1	6.2×10^{-3}
235$_{U}$		100	0.2	2.1×10^{-6}
236$_{U}$		200	0.2	6.3×10^{-5}
238$_{U}$		Unlimited.	Unlimited.	3.3×10^{-7}
(natural)		Unlimited.	Unlimited.	(See Table A-4)
U (enriched):				
<20 percent		Unlimited.	Unlimited.	(See Table A-4)
0 percent or greater		100	0.1	(See Table A-4)
(depleted)		Unlimited.	Unlimited.	(See Table A-4)
(irradiated)***				
8$_{V}$	Vanadium (23)	6	6	1.7×10^{5}
81$_{W}$	Tungsten (74)	200	100	5.0×10^{3}
85$_{W}$		1000	25	9.7×10^{-3}
87$_{W}$		40	20	7.0×10^{5}
127$_{Xe}$ (uncompressed)*.	Xenon (54)	70	70	2.8×10^{4}
127$_{Xe}$ (compressed)*		5	5	2.8×10^{4}
131m$_{Xe}$ (compressed)*		10	10	1.0×10^{5}
131m$_{Xe}$ (uncompressed)*.		100	100	1.0×10^{5}
133$_{Xe}$ (uncompressed)*.		1000	1000	1.9×10^{5}
133$_{Xe}$ (compressed)*		5	5	1.9×10^{5}
135$_{Xe}$ (uncompressed)*.		70	70	2.5×10^{6}
135$_{Xe}$ (compressed)*		2	2	2.5×10^{6}
87$_{Y}$	Yttrium (39)	20	20	4.5×10
90$_{Y}$		10	10	2.5×10^{5}
91m$_{Y}$		30	30	4.1×10^{7}
91$_{Y}$		30	30	2.5×10^{4}
92$_{Y}$		10	10	9.5×10^{6}
93$_{Y}$		10	10	3.2×10^{6}
169$_{Yb}$	Ytterbium (70)	80	80	2.3×10^{5}
175$_{Yb}$		400	25	1.8×10^{5}
65$_{Zn}$	Zinc (30)	30	30	8.0×10^{3}
69m$_{Zn}$		40	20	3.3×10^{6}
69$_{Zn}$		300	20	5.3×10^{7}

TABLE A-1—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of Table A-1)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
^{93}Zr	Zirconium (40)	1000	200	$3.5\times10^{-}$
^{95}Zr		20	20	2.1×10
^{97}Zr		20	20	2.0×10

* For the purpose of Table A-1, compressed gas means a gas at a pressure which exceeds the ambient atmospheric pressure at the location where the containment system was closed.

** The values of A_1 and A_2 must be calculated in accordance with the procedure specified in Appendix A, paragraph II(3), taking into account the activity of the fission products and of the uranium-233 in addition to that of the thorium.

*** The values of A_1 and A_2 must be calculated in accordance with the procedure specified in Appendix A, paragraph II(3), taking into account the activity of the fission products and plutonium isotopes in addition to that of the uranium.

TABLE A-2—RELATIONSHIP BETWEEN A_1 AND E_{max} FOR BETA EMITTERS

E_{max} (MeV)	A_1 (Ci)
<0.5	1,000
$0.5-<1.0$	300
$1.0-<1.5$	100
$1.5-<2.0$	30
$\geqq2.0$	10

TABLE A-3—RELATIONSHIP BETWEEN A_2 AND THE ATOMIC NUMBER OF THE RADIONUCLIDE

Atomic No.	A_2		
	Half-life less than 1,000 days	Half-life 1,000 days to 10^6 years	Half-life greater than 10^6 years
1 to 81	3 Ci	.05 Ci	3 Ci
82 and above	.002 Ci	.002 Ci	3 Ci

TABLE A-4—ACTIVITY-MASS RELATIONSHIPS FOR URANIUM/THORIUM

Thorium and uranium enrichment[1] wt % ^{235}U present	Specific activity	
	Ci/g	g/Ci
0.45	5.0×10^{-7}	2.0×10^{6}
0.72 (natural)	7.06×10^{-7}	1.42×10^{6}
1.0	7.6×10^{-7}	1.3×10^{6}
1.5	1.0×10^{-6}	1.0×10^{6}
5.0	2.7×10^{-6}	3.7×10^{5}
10.0	4.8×10^{-6}	2.1×10^{5}
20.0	1.0×10^{-5}	1.0×10^{5}
35.0	2.0×10^{-5}	5.0×10^{4}
50.0	2.5×10^{-5}	4.0×10^{4}
90.0	5.8×10^{-5}	1.7×10^{4}
93.0	7.0×10^{-5}	1.4×10^{4}
95.0	9.1×10^{-5}	1.1×10^{4}
Natural Thorium	$2.2\times10-7$	4.6×10^{6}

[1] The figures for uranium include representative values for the activity of the uranium-234 which is concentrated during the enrichment process. The activity for Thorium includes the equilibrium concentration of Thorium-228.

[48 FR 35607, Aug. 5, 1983; 48 FR 38450, Aug. 24, 1983; 48 FR 45382, Oct. 10, 1983; 48 FR 51903, Nov. 15, 1983]

PART 72—LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

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AUTHORITY: Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 68 Stat. 929, 930, 932, 933, 934, 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688, as amended (42 U.S.C. 2021); sec. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332); secs. 131, 132, 133, 135, 137, 141, Pub. L. 97-425, 96 Stat. 2229, 2230, 2232, 2241, sec. 148, Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10151, 10152, 10153, 10155, 10157, 10161, 10168).

Section 72.44(g) also issued under secs. 142(b) and 148 (c), (d), Pub. L. 100-203, 101 Stat. 1330-232, 1330-236 (42 U.S.C. 10162(b), 10168(c) (d)). Section 72.46 also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239); sec. 134, Pub. L. 97-425, 96 Stat. 2230 (42 U.S.C. 10154). Section 72.96(d) also issued under sec. 145(g), Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10165(g)). Subpart J also issued under secs. 2(2), 2(15), 2(19), 117(a), 141(h), Pub. L. 97-425, 96 Stat. 2202, 2203, 2204, 2222, 2244 (42 U.S.C. 10101, 10137(a), 10161(h)). Subparts K and L are also issued under sec. 133, 96 Stat.2230 (42 U.S.C. 10153) and 218(a), 96 Stat. 2252 (42 U.S.C. 10198).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 72.6, 72.22, 72.24, 72.26, 72.28(d), 72.30, 72.32, 72.44 (a), (b)(1), (4), (5), (c), (d)(1), (2), (e), (f), 72.48(a), 72.50(a), 72.52(b), 72.72 (b), (c), 72.74 (a), (b), 72.76, 72.78, 72.104, 72.106, 72.120, 72.122, 72.124, 72.126, 72.128, 72.130, 72.140 (b), (c), 72.148, 72.154, 72.156, 72.160, 72.166, 72.168, 72.170, 72.172, 72.176, 72.180, 72.184, 72.186 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 72.10 (a), (e), 72.22, 72.24, 72.26, 72.28, 72.30, 72.32, 72.44 (a), (b)(1), (4), (5), (c), (d)(1), (2), (e), (f), 72.48(a), 72.50(a), 72.52(b), 72.90 (a)-(d), (f), 72.92, 72.94, 72.98, 72.100, 72.102 (c), (d), (f), 72.104, 72.106, 72.120, 72.122, 72.124, 72.126, 72.128, 72.130, 72.140 (b), (c), 72.142, 72.144, 72.146, 72.148, 72.150, 72.152, 72.154, 72.156, 72.158, 72.160, 72.162, 72.164, 72.166, 72.168, 72.170, 72.172, 72.176, 72.180, 72.182, 72.184, 72.186, 72.190, 72.192, 72.194 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 72.10(e), 72.11, 72.16, 72.22, 72.24, 72.26, 72.28, 72.30, 72.32, 72.44 (b)(3), (c)(5), (d)(3), (e), (f), 72.48 (b), (c), 72.50(b), 72.54 (a), (b), (c), 72.56, 72.70, 72.72, 72.74 (a), (b), 72.76(a), 72.78(a), 72.80, 72.82, 72.92(b), 72.94(b), 72.140 (b), (c), (d), 72.144(a), 72.146, 72.148, 72.150, 72.152, 72.154 (a), (b), 72.156, 72.160, 72.162, 72.168, 72.170, 72.172, 72.174, 72.176, 72.180, 72.184, 72.186, 72.192, 72.212(b), 72.216, 72.218, 72.230, 72.234 (e), and (g) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 53 FR 31658, Aug. 19, 1988, unless otherwise noted.

Subpart A—General Provisions

§ 72.1 Purpose.

The regulations in this part establish requirements, procedures, and criteria for the issuance of licenses to receive, transfer, and possess power reactor spent fuel and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation (ISFSI) and the terms and conditions under which the Commission will issue such licenses, including licenses to the U.S. Department of Energy (DOE) for the provision of not more than 1900 metric tons of spent fuel storage capacity at facilities not owned by the Federal Government on January 7, 1983 for the Federal interim storage program under Subtitle B—Interim Storage Program of the Nuclear Waste Policy Act of 1982 (NWPA). The regulations in this part also establish requirements, procedures, and criteria for the issuance of licenses to DOE to receive, transfer, package, and possess power reactor spent fuel, high-level radioactive waste, and other radioactive materials associated with the spent fuel and high-level radioactive waste storage, in a monitored retrievable storage installation (MRS).

§ 72.2 Scope.

(a) Except as provided in § 72.6(b), licenses issued under this part are limited to the receipt, transfer, packaging, and possession of:

(1) Power reactor spent fuel to be stored in a complex that is designed and constructed specifically for storage of power reactor spent fuel aged for at least one year, and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation (ISFSI); or

(2) Power reactor spent fuel to be stored in a monitored retrievable storage installation (MRS) owned by DOE that is designed and constructed specifically for the storage of spent fuel aged for at least one year, high-level radioactive waste that is in a solid form, and other radioactive materials associated with spent fuel or high/level radioactive waste storage.

The term *Monitored Retrievable Storage Installation* or *MRS*, as defined § 72.3, is derived from the NWPA and includes any installation that meets this definition.

(b) The regulations in this part pertaining to an independent spent fuel storage installation (ISFSI) apply to all persons in the United States, including persons in Agreement States. The regulations in this part pertaining to a monitored retrievable storage installation (MRS) apply only to DOE.

(c) The requirements of this regulation are applicable, as appropriate, to both wet and dry modes of storage of (1) spent fuel in an independent spent fuel storage installation (ISFSI) and (2) spent fuel and solid high-level radioactive waste in a monitored retrievable storage installation (MRS).

(d) Licenses covering the storage of spent fuel in an existing spent fuel storage installation shall be issued in accordance with the requirements of this part as stated in § 72.40, as applicable.

(e) As provided in section 135 of the Nuclear Waste Policy Act of 1982, Pub. L. 97-425, 96 Stat. 2201 at 2232 (42 U.S.C. 10155) the U.S. Department of Energy is not required to obtain a license under the regulations in this part to use available capacity at one or more facilities owned by the Federal Government on January 7, 1983, including the modification and expansion of any such facilities, for the storage of spent nuclear fuel from civilian nuclear power reactors.

§ 72.3 Definitions.

As used in this part:

Act means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto.

Affected Indian tribe means any Indian tribe—

(1) Within whose reservation boundaries a monitored retrievable storage facility is proposed to be located;

(2) Whose federally defined possessory or usage rights to other lands outside of the reservation's boundaries arising out of congressionally ratified treaties may be substantially and adversely affected by the locating of such a facility: *Provided*, That the Secretary of the Interior finds, upon the petition of the appropriate governmental officials of the tribe, that such effects are both substantial and adverse to the tribe.

Affected unit of local government means any unit of local government with jurisdiction over the site where an MRS is proposed to be located.

As low as is reasonably achievable (*ALARA*) means as low as is reasonably achievable taking into account the state of technology, and the economics of improvement in relation to—

(1) Benefits to the public health and safety,

(2) Other societal and socioeconomic considerations, and

(3) The utilization of atomic energy in the public interest.

Atomic energy means all forms of energy released in the course of nuclear fission or nuclear transformation.

Byproduct material means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

Commencement of construction means any clearing of land, excavation, or other substantial action that would adversely affect the natural environment of a site, but does not mean:

(1) Changes desirable for the temporary use of the land for public recreational uses, necessary borings or excavations to determine subsurface materials and foundation conditions, or other preconstruction monitoring to establish background information related to the suitability of the site or to the protection of environmental values;

(2) Construction of environmental monitoring facilities;

(3) Procurement or manufacture of components of the installation; or

(4) Construction of means of access to the site as may be necessary to accomplish the objectives of paragraphs (1) and (2) of this definition.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Confinement systems means those systems, including ventilation, that act as barriers between areas containing radioactive substances and the environment.

Controlled area means that area immediately surrounding an ISFSI or MRS for which the licensee exercises authority over its use and within which ISFSI or MRS operations are performed.

Decommission means to remove (as a facility) safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and termination of license.

Design bases means that information that identifies the specific functions to be performed by a structure, system, or component of a facility and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be restraints derived from generally accepted *state-of-the-art* practices for achieving functional goals or requirements derived from analysis (based on calculation or experiments) of the effects of a postulated event under which a structure, system, or component must meet its functional goals. The values for controlling parameters for external events include: (1) Estimates of severe natural events to be used for deriving design bases that will be based on consideration of historical data on the associated parameters, physical data, or analysis of upper limits of the physical processes involved and (2) estimates of severe external man-induced events to be used for deriving design bases that will be based on analysis of human activity in the region taking into account the site characteristics and the risks associated with the event.

Design capacity means the quantity of spent fuel or high-level radioactive waste, the maximum burnup of the spent fuel in MWD/MTU, the curie content of the waste, and the total heat generation in BTU per hour that the storage installation is designed to accommodate.

DOE means the U.S. Department of Energy or its duly authorized representatives.

Floodplain means the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands. Areas subject to a one percent or greater chance of flooding in any given year are included.

High-level radioactive waste or *HLW* means (1) the highly radioacive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and (2) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation.

Historical data means a compilation of the available published and unpublished information concerning a particular type of event.

Independent spent fuel storage installation or *ISFSI* means a complex designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage. An ISFSI which is located on the site of another facility may share common utilities and services with such a facility and be physically connected with such other facility and still be considered independent: Provided, that such sharing of utilities and services or physical connections does not: (1) Increase the probability or consequences of an accident or malfunction of components, structures, or systems that are important to safety; or (2) reduce the margin of safety as defined in the basis for any technical specification of either facility.

Indian Tribe means an Indian tribe as defined in the Indian Self Determination and Education Assistance Act (Pub. L. 93-638).

Monitored Retrievable Storage Installation or *MRS* means a complex designed, constructed, and operated by DOE for the receipt, transfer, handling, packaging, possession, safeguarding, and storage of spent nuclear fuel aged for at least one year and solidified high-level radioactive waste resulting from civilian nuclear activities, pending shipment to a HLW repository or other disposal.

NEPA means the National Environmental Policy Act of 1969 including any amendments thereto.

NWPA means the Nuclear Waste Policy Act of 1982 including any amendments thereto.

Person means—

(1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department of Energy (DOE), except that the DOE shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974, as amended (88 Stat. 1244), and Sections 131, 132, 133, 135, 137, and 141 of the Nuclear Waste Policy Act of 1982 (96 Stat. 2229, 2230, 2232, 2241);

(2) Any State, any political subdivision of a State, or any political entity within a State;

(3) Any foreign government or nation, or any political subdivision of any such government or nation, or other entity; and

(4) Any legal successor, representative, agent, or agency of the foregoing.

Population means the people that may be affected by the change in environmental conditions due to the construction, operation, or decommissioning of an ISFSI or MRS.

Region means the geographical area surrounding and including the site, which is large enough to contain all the features related to a phenomenon or to a particular event that could potentially impact the safe or environmentally sound construction, operation, or decommissioning of an independent spent fuel storage or monitored retrievable storage installation.

Reservation means—

(1) Any Indian reservation or dependent Indian community referred to in clause (a) or (b) of section 1151 of title 18, United States Code; or

(2) Any land selected by an Alaska Native village or regional corporation under the provisions of the Alaska Native Claims Settlement Act (43 U.S.C. 1601 *et seq.*).

Site means the real property on which the ISFSI or MRS is located.

Source material means—

(1) Uranium or thorium, or any combination thereof, in any physical or chemical form or

(2) Ores that contain by weight one-twentieth of one percent (0.05%) or more of:

(i) Uranium,

(ii) Thorium, or

(iii) Any combination thereof.

Source material does not include special nuclear material.

Special nuclear material means—

(1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or

(2) Any material artificially enriched by any of the foregoing but does not include source material.

Spent Nuclear Fuel or *Spent Fuel* means fuel that has been withdrawn from a nuclear reactor following irradiation, has undergone at least one year's decay since being used as a source of energy in a power reactor, and has not been chemically separated into its constituent elements by reprocessing. Spent fuel includes the special nuclear material, byproduct material, source material, and other radioactive materials associated with fuel assemblies.

Structures, systems, and components important to safety mean those features of the ISFSI or MRS whose function is:

(1) To maintain the conditions required to store spent fuel or high-level radioactive waste safely,

(2) To prevent damage to the spent fuel or the high-level radioactive waste container during handling and storage, or

(3) To provide reasonable assurance that spent fuel or high-level radioactive waste can be received, handled, packaged, stored, and retrieved without undue risk to the health and safety of the public.

§ 72.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part and applications filed under them should be addressed to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Communications, reports, and applications may be delivered in person at the Commission's Offices at 11555 Rockville Pike, Rockville, MD, or at 2120 L Street NW, Washington, DC.

[53 FR 31658, Aug. 19, 1988, as amended at 53 FR 43421, Oct. 27, 1988]

§ 72.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission, other than a written interpretation by the General Counsel, will be recognized to be binding upon the Commission.

§ 72.6 License required; types of licenses.

(a) Licenses for the receipt, handling, storage, and transfer of spent fuel or high-level radioactive waste are of two types: general and specific. Any general license provided in this part is effective without the filing of an application with the Commission or the issuance of a licensing document to a particular person. A specific license is issued to a named person upon application filed pursuant to regulations in this part.

(b) A general license is hereby issued to receive title to and own spent fuel or high-level radioactive waste without regard to quantity. Notwithstanding any other provision of this chapter, a general licensee under this paragraph is not authorized to acquire, deliver, receive, possess, use, or transfer spent fuel or high-level radioactive waste except as authorized in a specific license.

(c) Except as authorized in a specific license and in a general license under subpart K of this part issued by the Commission in accordance with the regulations in this part, no person may acquire, receive, or possess—

(1) Spent fuel for the purpose of storage in an ISFSI; or

(2) Spent fuel, high-level radioactive waste, or radioactive material associated with high-level radioactive waste for the purpose of storage in an MRS.

[53 FR 31658, Aug. 19, 1988, as amended at 55 FR 29191, July 18, 1990]

§ 72.7 Specific exemptions.

The Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

§ 72.8 Denial of licensing by Agreement States.

Agreement States may not issue licenses covering the storage of spent fuel in an ISFSI or the storage of spent fuel and high-level radioactive waste in an MRS.

§ 72.9 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0132.

(b) The approved information collection requirements contained in this part appear in §§ 72.16, 72.22 through 72.34, 72.42, 72.44, 72.48 through 72.56, 72.62, 72.70 through 72.82, 72.90, 72.92, 72.94, 72.98, 72.100, 72.102, 72.104, 72.108, 72.120, 72.126, 72.140 through 72.176 72.180 through 72.186, and 72.192.

§ 72.10 Employee protection.

(a) Discrimination by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, and privileges of employment. The protected activities are established in section 210 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act of 1954, as amended, or the Energy Reorganization Act.

(1) The protected activities include but are not limited to—

(i) Providing the Commission information about possible violations of requirements imposed under either of the above statutes;

(ii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements; or

(iii) Testifying in any Commission proceeding.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in the protected activities specified in paragrph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 30 days after an alleged violation occurs by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraph (a) or paragraph (g) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for—

(1) Denial, revocation, or suspension of the license.

(2) Imposition of a civil penalty on the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e)(1) Each licensee and each applicant shall post Form NRC-3, "Notice to Employees," on its premises. Posting must be at location sufficient to permit employees protected by this section to observe all copy on the way to or from their place of work. Premises must be posted no later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

(2) Copies of Form NRC-3 may be obtained by writing to the Regional

Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in Appendix A, part 73 of this chapter or the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(f) No agreement affecting the compensation, terms, conditions and privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 210 of the Energy Reorganization Act of 1974, may contain any provision which would prohibit, restrict, or otherwise discourage, an employee from participating in protected activity as defined in paragraph (a)(1) of this section, including, but not limited to, providing information to the NRC on potential violations or other matters within NRC's regulatory responsibilities.

[53 FR 31658, Aug. 19, 1988, as amended at 55 FR 10406, Mar. 21, 1990; 55 FR 13883, April 12, 1990]

§ 72.11 Completeness and accuracy of information.

(a) Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

(b) Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Commission of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification shall be provided to the Administrator of the appropriate Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the Commission by other reporting or updating requirements.

Subpart B—License Application, Form, and Contents

§ 72.16 Filing of application for specific license.

(a) *Place of filing.* Each application for a license, or amendment thereof, under this part should be filed with the Director, Division of Industrial and Medical Nuclear Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Applications, communications, reports, and correspondence may also be delivered in person at the Commission's offices at 11555 Rockville Pike, Rockville, MD, or at the NRC Public Document Room, 2120 L Street NW, Washington, DC.

(b) *Oath or affirmation.* Each application for a license or license amendment (including amendments to such applications), except for those filed by DOE, must be executed in an original signed by the applicant or duly authorized officer thereof under oath or affirmation. Each application for a license or license amendment (including amendments to such applications) filed by DOE must be signed by the Secretary of Energy or the Secretary's authorized representative.

(c) *Number of copies of application.* Each filing of an application for a license or license amendment under this part (including amendments to such applications) must include, in addition to a signed original, 15 copies of each portion of such application, safety analysis report, environmental report, and any amendments. Another 125 copies shall be retained by the applicant for distribution in accordance with instruction from the Director or the Director's designee.

(d) *Fees.* The application, amendment, and renewal fees applicable to a license covering the storage of spent fuel in an ISFSI are those shown in § 170.31 of this chapter.

(e) *Notice of docketing.* Upon receipt of an application for a license or license amendment under this part, the Director, Office of Nuclear Material Safety and Safeguards or the Director's designee will assign a docket number to the application, notify the applicant of the docket number, instruct the applicant to distribute copies retained by the applicant in accordance with paragraph (c) of this section, and cause a notice of docketing to be published in the FEDERAL REGISTER. The notice of docketing shall identify the site of the ISFSI or the MRS by locality and State and may include a notice of hearing or a notice of proposed action and opportunity for hearing as provided by § 72.46 of this part. In the case of an application for a license or an amendment to a license for an MRS, the Director, Office of Nuclear Material Safety and Safeguards, or the Director's designee, in accordance with § 72.200 of this part, shall send a copy of the notice of docketing to the Governor and legislature of any State in which an MRS is or may be located, to the Chief Executive of the local municipality, to the Governors of any contiguous States and to the governing body of any affected Indian tribe.

[53 FR 31658, Aug. 19, 1988, as amended at 53 FR 43421, Oct. 27, 1988]

§ 72.18 Elimination of repetition.

In any application under this part, the applicant may incorporate by reference information contained in previous applications, statements, or reports filed with the Commission: Provided, That such references are clear and specific.

§ 72.20 Public inspection of application.

Applications and documents submitted to the Commission in connection with applications may be made available for public inspection in accordance with provisions of the regulations contained in parts 2 and 9 of this chapter.

§ 72.22 Contents of application: General and financial information.

Each application must state:

(a) Full name of applicant;

(b) Address of applicant;

(c) Description of business or occupation of applicant;

(d) If applicant is:

(1) An individual: Citizenship and age;

(2) A partnership: Name, citizenship, and address of each partner and the principal location at which the partnership does business;

(3) A corporation or an unincorporated association:

(i) The State in which it is incorporated or organized and the principal location at which it does business; and

(ii) The names, addresses, and citizenship of its directors and principal officers;

(4) Acting as an agent or representative of another person in filing the application: The identification of the principal and the information required under this paragraph with respect to such principal.

(5) The Department of Energy:

(i) The identification of the DOE organization responsible for the construction and operation of the ISFSI or MRS, including a description of any delegations of authority and assignments of responsibilities.

(ii) For each application for a license for an MRS, the provisions of the public law authorizing the construction and operation of the MRS.

(e) Except for DOE, information sufficient to demonstrate to the Commission the financial qualifications of the applicant to carry out, in accordance with the regulations in this chapter, the activities for which the license is sought. The information must state the place at which the activity is to be performed, the general plan for carrying out the activity, and the period of time for which the license is requested. The information must show that the applicant either possesses the necessary funds, or that the applicant has reasonable assurance of obtaining the necessary; funds or that by a combination of the two, the applicant will have the necessary funds available to cover the following:

(1) Estimated construction costs;

(2) Estimated operating costs over the planned life of the ISFSI; and

(3) Estimated decommissioning costs, and the necessary financial arrangements to provide reasonable assurance prior to licensing that decommissioning will be carried out after the removal of spent fuel and/or high-level radioactive waste from storage.

§ 72.24 Contents of application: Technical information.

Each application for a license under this part must include a Safety Analysis Report describing the proposed ISFSI or MRS for the receipt, handling, packaging, and storage of spent fuel or high-level radioactive waste, including how the ISFSI or MRS will be operated. The minimum information to be included in this report must consist of the following:

(a) A description and safety assessment of the site on which the ISFSI or MRS is to be located, with appropriate attention to the design bases for external events. Such assessment must contain an analysis and evaluation of the major structures, systems, and components of the ISFSI or MRS that bear on the suitability of the site when the ISFSI or MRS is operated at its design capacity. If the proposed ISFSI or MRS is to be located on the site of a nuclear power plant or other licensed facility, the potential interactions between the ISFSI or MRS and such other facility must be evaluated.

(b) A description and discussion of the ISFSI or MRS structures with special attention to design and operating characteristics, unusual or novel design features, and principal safety considerations.

(c) The design of the ISFSI or MRS in sufficient detail to support the findings in § 72.40, including:

(1) The design criteria for the ISFSI or MRS pursuant to subpart F of this part, with identification and justification for any additions to or departures from the general design criteria;

(2) the design bases and the relation of the design bases to the design criteria;

(3) Information relative to materials of construction, general arrangement, dimensions of principal structures, and descriptions of all structures, systems, and components important to safety, in sufficient detail to support a finding that the ISFSI or MRS will satisfy the design bases with an adequate margin for safety; and

(4) Applicable codes and standards.

(d) An analysis and evaluation of the design and performance of structures, systems, and components important to safety, with the objective of assessing the impact on public health and safety resulting from operation of the ISFSI or MRS and including determination of:

(1) The margins of safety during normal operations and expected operational occurrences during the life of the ISFSI or MRS; and

(2) The adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents, including natural and manmade phenomena and events.

(e) The means for controlling and limiting occupational radiation exposures within the limits given in part 20 of this chapter, and for meeting the objective of maintaining exposures as low as is reasonably achievable.

(f) The features of ISFSI or MRS design and operating modes to reduce to the extent practicable radioactive waste volumes generated at the installation.

(g) An identification and justification for the selection of those subjects that will be probable license conditions and technical specifications. These subjects must cover the design, construction, preoperational testing, operation, and decommissioning of the ISFSI or MRS.

(h) A plan for the conduct of operations, including the planned managerial and administrative controls system, and the applicant's organization, and program for training of personnel pursuant to subpart I.

(i) If the proposed ISFSI or MRS incorporates structures, systems, or components important to safety whose functional adequacy or reliability have not been demonstrated by prior use for that purpose or cannot be demonstrated by reference to performance data in related applications or to widely accepted engineering principles, an identification of these structures, systems, or components along with a schedule showing how safety questions will be resolved prior to the initial receipt of spent fuel or high-level radioactive waste for storage at the ISFSI or MRS.

(j) The technical qualifications of the applicant to engage in the proposed activities, as required by § 72.28

(k) A description of the applicant's plans for coping with emergencies, as required by § 72.32.

(l) A description of the equipment to be installed to maintain control over radioactive materials in gaseous and liquid effluents produced during normal operations and expected operational occurrences. The description must identify the design objectives and the means to be used for keeping levels of radioactive material in effluents to the environment as low as is reasonably achievable and within the exposure limits stated in § 72.104. The description must include:

(1) An estimate of the quantity of each of the principal radionuclides expected to be released annually to the environment in liquid and gaseous effluents produced during normal ISFSI or MRS operations;

(2) A description of the equipment and processes used in radioactive waste systems; and

(3) A general description of the provisions for packaging, storage, and disposal of solid wastes containing radioactive materials resulting from treatment of gaseous and liquid effluents and from other sources.

(m) An analysis of the potential dose equivalent or committed dose equivalent to an individual outside the controlled area from accidents or natural phenomena events that result in the release of radioactive material to the environment or direct radiation from the ISFSI or MRS. The calculations of individual dose equivalent or committed dose equivalent must be performed for direct exposure, inhalation, and ingestion occurring as a result of the postulated design basis event.

(n) A description of the quality assurance program that satisfies the requirements of subpart G to be applied to the design, fabrication, construction, testing, operation, modification, and decommissioning of the structures, systems, and components of the ISFSI or MRS important to safety. The description must identify the structures, systems, and components important to safety. The program must also apply to managerial and administrative controls used to ensure safe operation of the ISFSI or MRS.

(o) A description of the detailed security measures for physical protection, including design features and the plans required by subpart H. For an application from DOE for an ISFSI or MRS, DOE will provide a description of the physical security plan for protection against radiological sabotage as required by subpart H. An application submitted by DOE for an ISFSI or MRS must include a certification that it will provide at the ISFSI or MRS such safeguards as it requires at comparable surface DOE facilities to promote the common defense and security.

(p) A description of the program covering preoperational testing and initial operations.

(q) A description of the decommissioning plan required under § 72.30.

§ 72.26 Contents of application: Technical specifications.

Each application under this part shall include proposed technical specifications in accordance with the requirements of § 72.44 and a summary statement of the bases and justifications for these technical specifications.

§ 72.28 Contents of application: Applicant's technical qualifications.

Each application under this part must include:

(a) The technical qualifications, including training and experience, of the applicant to engage in the proposed activities;

(b) A description of the personnel training program required under subpart I;

(c) A description of the applicant's operating organization, delegations of responsibility and authority and the minimum skills and experience qualifications relevant to the various levels of responsibility and authority; and

(d) A commitment by the applicant to have and maintain an adequate complement of trained and certified installation personnel prior to the receipt of spent fuel or high-level radioactive waste for storage.

§ 72.30 Decommissioning planning, including financing and recordkeeping.

(a) Each application under this part must include a proposed decommissioning plan that contains sufficient information on proposed practices and procedures for the decontamination of the site and facilities and for disposal of residual radioactive materials after all spent fuel or high-level radioactive waste has been removed, in order to provide reasonable assurance that the decontamination and decommissioning of the ISFSI or MRS at the end of its useful life will provide adequate protection to the health and safety of the public. This plan must identify and discuss those design features of the ISFSI or MRS that facilitate its decontamination and decommissioning at the end of its useful life.

(b) The proposed decommissioning plan must also include a decommissioning funding plan containing information on how reasonable assurance will be provided that funds will be available to decommission the ISFSI or MRS. This information must include a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (c) of this section, including means of adjusting cost estimates and associated funding levels periodically over the life of the ISFSI or MRS.

(c) Financial assurance for decommissioning must be provided by one or more of the following methods:

(1) *Prepayment.* Prepayment is the deposit prior to the start of operation into an account segregated from licensee assets and outside the licensee's administrative control of cash or liquid assets such that the amount of funds would be sufficient to pay decommissioning costs. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.

(2) *A surety method, insurance, or other guarantee method.* These methods guarantee that decommissioning costs will be paid should the licensee default. A surety method may be in the form of a surety bond, letter of credit, or line of credit. A parent company guarantee of funds for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in Appendix A of 10 CFR part 30. A parent company guarantee may not be used in combination with other financial methods to satisfy the requirements of this section. Any surety method or insurance used to provide financial assurance for decommissioning must contain the following conditions:

(i) The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless 90 days or more prior to the renewal date, the issuer notifies the Commission, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the Commission withing 30 days after receipt of notification or cancellation.

(ii) The surety method or insurance must be payable to a trust established for decomissioning costs. The trustee and trust must be acceptable to the Commission. An acceptable trustee includes an appropriate State or Federal government agency or an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(iii) The surety or insurance must remain in effect until the Commission has terminated the license.

(3) An external sinking fund in which deposits are made at least annually, coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund establishing and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of gov-

ernment securities. The surety or insurance provision must be as stated in paragraph (c)(2) of this section.

(4) In the case of Federal, State, or local government licensees, a statement of intent containing a cost estimate for decommissioning, and indicating that funds for decommissioning will be obtained when necessary.

(5) In the case of electric utility licensees, the methods of § 50.75(e) (1) and (3) of this chapter.

(d) Each licensee shall keep records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the Commission. If records of relevant information are kept for other purposes, reference to these records and their locations may be used. Information the Commission considers important to decommissioning consists of—

(1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations.

(2) As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.

(3) Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.

[53 FR 31658, Aug. 19, 1988, as amended at 55 FR 29191, July 18, 1990]

§ 72.32 Emergency plan.

(a)—(b) [Reserved]

(c) For an ISFSI that is located on the site of a nuclear power reactor licensed for operation by the Commission, the emergency plan required by 10 CFR 50.47 shall be deemed to satisfy the requirements of this section.

§ 72.34 Environmental report.

Each application for an ISFSI or MRS license under this part must be accompanied by an Environmental Report which meets the requirements of subpart A of part 51 of this chapter.

Subpart C—Issuance and Conditions of License

§ 72.40 Issuance of license.

(a) Except as provided in paragraph (c) of this section, the Commission will issue a license under this part upon a determination that the application for a license meets the standards and requirements of the Act and the regulations of the Commission, and upon finding that:

(1) The applicant's proposed ISFSI or MRS design complies with subpart F;

(2) The proposed site complies with the criteria in subpart E;

(3) If on the site of a nuclear power plant or other licensed activity or facility, the proposed ISFSI would not pose an undue risk to the safe operation of such nuclear power plant or other licensed activity or facility;

(4) The applicant is qualified by reason of training and experience to conduct the operation covered by the regulations in this part;

(5) The applicant's proposed operating procedures to protect health and to minimize danger to life or property are adequate;

(6) Except for DOE, the applicant for an ISFSI or MRS is financially qualified to engage in the proposed activities in accordance with the regulations in this part;

(7) The applicant's quality assurance plan complies with subpart G;

(8) The applicant's physical protection provisions comply with subpart H. DOE has complied with the safeguards and physical security provisions identified in § 72.24(o);

(9) The applicant's personnel training program complies with subpart I;

(10) Except for DOE, the applicant's decommissioning plan and its financing pursuant to § 72.30 provide reasonable assurance that the decontamination and decommissioning of the ISFSI or MRS at the end of its useful life will provide adequate protection to the health and safety of the public;

(11) The applicant's emergency plan complies with § 72.32;

(12) The applicable provisions of part 170 of this chapter have been satisfied;

(13) There is reasonable assurance that: (i) The activities authorized by the license can be conducted without endangering the health and safety of the public and (ii) these activities will be conducted in compliance with the applicable regulations of this chapter; and

(14) The issuance of the license will not be inimical to the common defense and security.

(b) Grounds for denial of a license to store spent fuel in the proposed ISFSI or to store spent fuel and high-level radioactive waste in the proposed MRS may be the commencement of construction prior to (1) a finding by the Director, Office of Nuclear Materials Safety and Safeguards or designee or (2) a finding after a public hearing by the presiding officer, Atomic Safety and Licensing Board, Atomic Safety and Licensing Appeal Board, or the Commission acting as a collegial body, as appropriate, that the action called for is the issuance of the proposed license with any appropriate conditions to protect environmental values. This finding is to be made on the basis of information filed and evaluations made pursuant to subpart A of part 51 of this chapter or in the case of an MRS on the basis of evaluations made pursuant to sections 141(c) and (d) or 148(a) and (c) of NWPA (96 Stat. 2242, 2243, 42 U.S.C. 10161(c), (d); 101 Stat. 1330-235, 1330-236, 42 U.S.C. 10168(a), (c)), as appropriate, and after weighing the environmental, economic, technical and other benefits against environmental costs and considering available alternatives.

(c) For facilities that have been covered under previous licensing actions including the issuance of a construction permit under part 50 of this chapter, a reevaluation of the site is not required except where new information is discovered which could alter the original site evaluation findings. In this case, the site evaluation factors involved will be reevaluated.

§ 72.42 Duration of license; renewal.

(a) Each license issued under this part must be for a fixed period of time to be specified in the license. The license term for an ISFSI must not exceed 20 years from the date of issuance. The license term for an MRS must not exceed 40 years from the date of issuance. Licenses for either type of installation may be renewed by the Commission at the expiration of the license term upon application by the licensee and pursuant to the requirements of this rule.

(b) Applications for renewal of a license should be filed in accordance with the applicable provisions of subpart B at least two years prior to the expiration of the existing license. Information contained in previous applications, statements, or reports filed with the Commission under the license may be incorporated by reference: Provided, that such references are clear and specific.

(c) In any case in which a licensee not less than two years prior to expiration of its existing license, has filed an application in proper form for renewal of a license, the existing license shall not expire until a final decision concerning the application for renewal has been made by the Commission.

§ 72.44 License conditions.

(a) Each license issued under this part shall include license conditions. The license conditions may be derived from the analyses and evaluations included in the Safety Analysis Report and amendments thereto submitted pursuant to § 72.24. License conditions pertain to design, construction and operation. The Commission may also include additional license conditions as it finds appropriate.

(b) Each license issued under this part shall be subject to the following conditions, even if they are not explicitly stated therein;

(1) Neither the license nor any right thereunder shall be transferred, assigned, or disposed of in any manner, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission shall, after securing full information, find that the transfer is in accordance with the provisions of the Atomic Energy Act of 1954, as amended, and give its consent in writing.

(2) The license shall be subject to revocation, suspension, modification, or amendment in accordance with the procedures provided by the Atomic Energy Act of 1954, as amended, and Commission regulations.

(3) Upon request of the Commission, the licensee shall, at any time before expiration of the license, submit written statements, signed under oath or affirmation if appropriate, to enable the Commission to determine whether or not the license should be modified, suspended, or revoked.

(4) Prior to the receipt of spent fuel for storage at an ISFSI or the receipt of spent fuel and high-level radioactive waste for storage at an MRS, the licensee shall have in effect an NRC-approved program covering the training and certification of personnel that meets the requirements of subpart I.

(5) The license shall permit the operation of the equipment and controls that are important to safety of the ISFSI or the MRS only by personnel whom the licensee has certified as being adequately trained to perform such operations, or by uncertified personnel who are under the direct visual supervision of a certified individual.

(6)(i) Each licensee shall notify the appropriate NRC Regional Administrator, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any Chapter of Title II (Bankruptcy) of the United States Code by or against:

(A) The licensee;

(B) An entity (as that term is defined in 11 U.S.C. 101(14)) controlling the licensee or listing the license or licensee as property of the estate; or

(C) An affiliate (as that term is defined in 11 U.S.C. 101(2)) of the licensee.

(ii) This notification must indicate:

(A) The bankruptcy court in which the petition for bankruptcy was filed; and

(B) The date of the filing of the petition.

(c) Each license issued under this part must include technical specifications. Technical specifications must include requirements in the following categories:

(1) *Functional and operating limits and monitoring instruments and limiting control settings.*

(i) Functional and operating limits for an ISFSI or MRS are limits on fuel or waste handling and storage conditions that are found to be necessary to protect the integrity of the stored fuel or waste container, to protect employees against occupational exposures and to guard against the uncontrolled release of radioactive materials; and

(ii) Monitoring instruments and limiting control settings for an ISFSI or MRS are those related to fuel or waste handling and storage conditions having significant safety functions.

(2) *Limiting conditions.* Limiting conditions are the lowest functional capability or performance levels of equipment required for safe operation.

(3) *Surveillance requirements.* Surveillance requirements include:

(i) Inspection and monitoring of spent fuel or high-level radioactive waste in storage;

(ii) inspection, test and calibration activities to ensure that the necessary integrity of required systems and components is maintained;

(iii) confirmation that operation of the ISFSI or MRS is within the required functional and operating limits; and

(iv) confirmation that the limiting conditions required for safe storage are met.

(4) *Design features.* Design features include items that would have a significant effect on safety if altered or

modified, such as materials of construction and geometric arrangements.

(5) *Administrative controls.* Administrative controls include the organization and management procedures, recordkeeping, review and audit, and reporting necessary to assure that the operations involved in the storage of spent fuel in an ISFSI and the storage of spent fuel and high-level radioactive waste in an MRS are performed in a safe manner.

(d) Each license authorizing the receipt, handling, and storage of spent fuel or high-level radioactive waste under this part must include technical specifications that, in addition to stating the limits on the release of radioactive materials for compliance with limits of part 20 of this chapter and the "as low as is reasonably achievable" objectives for effluents, require that:

(1) Operating procedures for control of effluents be established and followed, and equipment in the radioactive waste treatment systems be maintained and used, to meet the requirements of § 72.104;

(2) An environmental monitoring program be established to ensure compliance with the technical specifications for effluents; and

(3) An annual report be submitted to the appropriate regional office specified in appendix A of part 73 of this chapter, with a copy to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, within 60 days after January 1 of each year, specifying the quantity of each of the principal radionuclides released to the environment in liquid and in gaseous effluents during the previous 12 months of operation and such other information as may be required by the Commission to estimate maximum potential radiation dose commitment to the public resulting from effluent releases. On the basis of this report and any additional information the Commission may obtain from the licensee or others, the Commission may from time to time require the licensee to take such action as the Commission deems appropriate.

(e) The licensee shall make no change that would decrease the effectiveness of the physical security plan prepared pursuant to § 72.180 without the prior approval of the Commission. A licensee desiring to make such a change shall submit an application for an amendment to the license pursuant to § 72.56. A licensee may make changes to the physical security plan without prior Commission approval, provided that such changes do not decrease the effectiveness of the plan. The licensee shall furnish to the Commission a report containing a description of each change within two months after the change is made, and shall maintain records of changes to the plan made without prior Commission approval for a period of 3 years from the date of the change.

(f) A licensee shall follow and maintain in effect an emergency plan that is approved by the Commission. The licensee may make changes to the approved plan without Commission approval only if such changes do not decrease the effectiveness of the plan. Within six months after any change is made, the licensee shall submit a report containing a description of any changes made in the plan to the appropriate NRC Regional Office specified in appendix A to part 73 of this chapter with a copy to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Proposed changes that decrease the effectiveness of the approved emergency plan must not be implemented unless the licensee has received prior approval of such changes from the Commission.

(g) A license issued to DOE under this part for an MRS authorized by section 142(b) of NWPA (101 Stat. 1330-232, 42 U.S.C. 10162(b)) must include the following conditions:

(1) Construction of the MRS may not begin until the Commission has authorized the construction of a repository under section 114(d) of NWPA (96 Stat. 2215, as amended by 101 Stat. 1330-230, 42 U.S.C. 10134(d)) and part 60 of this chapter;

(2) Construction of the MRS or acceptance of spent nuclear fuel or high-level radioactive waste at the MRS is prohibited during such time as the repository license is revoked by the

ommission or construction of the re- ository ceases;

(3) The quantity of spent nuclear el or high-level radioactive waste at e site of the MRS at any one time ay not exceed 10,000 metric tons of eavy metal until a repository author- ed under NWPA and part 60 of this apter first accepts spent nuclear el or solidified high-level radioactive aste; and

(4) The quantity of spent nuclear el or high-level radioactive waste at e site of the MRS at any one time ay not exceed 15,000 metric tons of eavy metal.

72.46 Public hearings.

(a) In connection with each applica- on for a license under this part, the ommission shall issue or cause to be sued a notice of proposed action and pportunity for hearing in accordance ith § 2.105 or § 2.1107 of this chapter, appropriate, or, if the Commission nds that a hearing is required in the ublic interest, a notice of hearing in ccordance with § 2.104 of this chap- r.

(b)(1) In connection with each appli- ation for an amendment to a license nder this part, the Commission shall, cept as provided in paragraph (b)(2) this section, issue or cause to be sued a notice of proposed action and pportunity for hearing in accordance ith § 2.105 or § 2.1107 of this chapter, appropriate, or, if the Commission nds that a hearing is required in the ublic interest, a notice of hearing in ccordance with § 2.104 of this chap- er.

(2) The Director, Office of Nuclear aterial Safety and Safeguards, or e Director's designee may dispense ith a notice of proposed action and pportunity for hearing or a notice of earing and take immediate action on n amendment to a license issued nder this part upon a determination hat the amendment does not present genuine issue as to whether the ealth and safety of the public will be ignificantly affected. After taking the ction, the Director or the Director's esignee shall promptly publish a otice in the FEDERAL REGISTER of the ction taken and of the right of inter- sted persons to request a hearing on whether the action should be rescinded or modified. If the action taken amends an MRS license, the Director or the Director's designee shall also inform the appropriate State and local officials.

(c) The notice of proposed action and opportunity for hearing or the notice of hearing may be included in the notice of docketing required to be published by § 72.16 of this part.

(d) If no request for a hearing or petition for leave to intervene is filed within the time prescribed in the notice of proposed action and opportunity for hearing, the Director, Office of Nuclear Material Safety and Safeguards or the Director's designee may take the proposed action, and thereafter shall promptly inform the appropriate State and local officials and publish a notice in the FEDERAL REGISTER of the action taken. In accordance with § 2.764(c) of this chapter, the Director, Office of Nuclear Material Safety and Safeguards shall not issue an initial license for the construction and operation of an ISFSI or an MRS until expressly authorized to do so by the Commission.

§ 72.48 Changes, tests, and experiments.

(a)(1) The holder of a license issued under this part may:

(i) Make changes in the ISFSI or MRS described in the Safety Analysis Report,

(ii) Make changes in the procedures described in the Safety Analysis Report, or

(iii) Conduct tests or experiments not described in the Safety Analysis Report, without prior Commission approval, unless the proposed change, test or experiment involves a change in the license conditions incorporated in the license, an unreviewed safety question, a significant increase in occupational exposure or a significant unreviewed enviromental impact.

(2) A proposed change, test, or experiment shall be deemed to involve an unreviewed safety question—

(i) If the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the

Safety Analysis Report may be increased;

(ii) If a possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report may be created; or

(iii) If the margin of safety as defined in the basis for any technical specification is reduced.

(b)(1) The licensee shall maintain records of changes in the ISFSI or MRS and of changes in procedures made pursuant to this section if these changes constitute changes in the ISFSI or MRS or procedures described in the Safety Analysis Report. The licensee shall also maintain records of tests and experiments carried out pursuant to paragraph (a) of this section. These records must include a written safety evaluation that provides the bases for the determination that the change, test, or experiment does not involve an unreviewed safety question. The records of changes in the ISFSI or MRS and of changes in procedures and records of tests must be maintained until the Commission terminates the license.

(2) Annually, or at such shorter interval as may be specified in the license, the licensee shall furnish to the appropriate regional office, specified in appendix A of part 73 of this chapter, with a copy to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, a report containing a brief description of changes, tests, and experiments made under paragraph (a) of the section, including a summary of the safety evaluation of each. Any report submitted by a licensee pursuant to this paragraph will be made a part of the public record pertaining to this license.

(c) The holder of a license issued under this part who desires—

(1) To make changes in the ISFSI or MRS or the procedures as described in the Safety Analysis Report, or to conduct tests or experiments not described in the Safety Analysis Report, that involve an unreviewed safety question, a significant increase in occupational exposure, or significant unreviewed environmental impact, or

(2) To change the license conditions shall submit an application for amendment of the license, pursuant to § 72.56.

§ 72.50 Transfer of license.

(a) No license or any part included in a license issued under this part for an ISFSI or MRS shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

(b)(1) An application for transfer of a license must include as much of the information described in §§ 72.22 and 72.28 with respect to the identity and the technical and financial qualifications of the proposed transferee as would be required by those sections if the application were for an initial license. The application must also include a statement of the purposes for which the transfer of the license is requested and the nature of the transaction necessitating or making desirable the transfer of the license.

(2) The Commission may require any person who submits an application for the transfer of a license pursuant to the provisions of this section to file a written consent from the existing licensee, or a certified copy of an order or judgment of a court of competent jurisdiction, attesting to the person's right—subject to the licensing requirements of the Act and these regulations—to possession of the radioactive materials and the storage installation involved.

(c) After appropriate notice to interested persons, including the existing licensee, and observance of such procedures as may be required by the Act or regulations or orders of the Commission, the Commission will approve an application for the transfer of a license, if the Commission determines that:

(1) The proposed transferee is qualified to be the holder of the license; and

(2) Transfer of the license is consistent with applicable provisions of the law, and the regulations and orders issued by the Commission.

§ 72.52 Creditor regulations.

(a) This section does not apply to an ISFSI or MRS constructed and operated by DOE.

(b) Pursuant to section 184 of the Act, the Commission consents, without individual application, to the creation of any mortgage, pledge, or other lien on special nuclear material contained in spent fuel not owned by the United States that is the subject of a license or on any interest in special nuclear material in spent fuel; Provided:

(1) That the rights of any creditor so secured may be exercised only in compliance with and subject to the same requirements and restrictions as would apply to the licensee pursuant to the provisions of the license, the Atomic Energy Act of 1954, as amended, and regulations issued by the Commission pursuant to said Act; and

(2) That no creditor so secured may take possession of the spent fuel pursuant to the provisions of this section prior to either the issuance of a license from the Commission authorizing possession or the transfer of the license.

(c) Any creditor so secured may apply for transfer of the license covering spent fuel by filing an application for transfer of the license pursuant to § 72.50(b). The Commission will act upon the application pursuant to § 72.50(c).

(d) Nothing contained in this regulation shall be deemed to affect the means of acquiring, or the priority of, any tax lien or other lien provided by law.

(e) As used in this section, "creditor" includes, without implied limitation, the trustee under any mortgage, pledge, or lien on spent fuel in storage made to secure any creditor; any trustee or receiver of spent fuel appointed by a court of competent jurisdiction in any action brought for the benefit of any creditor secured by such mortgage, pledge, or lien; any purchaser of the spent fuel at the sale thereof upon foreclosure of the mortgage, pledge, or lien or upon exercise of any power of sale contained therein; or any assignee of any such purchaser.

§ 72.54 Application for termination of license.

(a) Any licensee may apply to the Commission for authority to surrender a license voluntarily and to decommission the ISFSI or MRS. This application must be made within two years following permanent cessation of operations, and in no case later than one year prior to expiration of the license. Each application for termination of license must be accompanied, or preceded, by a proposed final decommissioning plan.

(b) The proposed final decommissioning plan must include—

(1) The choice of the alternative for decommissioning with a description of activities involved. An alternative is acceptable if it provides for completion of decommissioning without significant delay. Consideration will be given to an alternative which provides for delayed completion of decommissioning only when necessary to protect the public health and safety. Factors to be considered in evaluating an alternative which provides for delayed completion of decommissioning include unavailability of waste disposal capacity and other site specific factors affecting the licensee's capability to carry out decommissioning safely, including presence of other nuclear facilities at the site.

(2) A description of controls and limits on procedures and equipment to protect occupational and public health and safety;

(3) A description of the planned final radiation survey; and

(4) An updated detailed cost estimate for the chosen alternative for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and plan for assuring the availability of adequate funds for completion of decommissioning including means for adjusting cost estimates and associated funding levels over any storage or surveillance period.

(5) A description of technical specifications and quality assurance provisions in place during decommissioning.

(c) For final decommissioning plans in which the major dismantlement activities are delayed by first placing the

ISFSI or MRS in storage, planning for these delayed activities may be less detailed. Updated detailed plans must be submitted and approved prior to the start of such activities.

(d) If the final decommissioning plan demonstrates that the decommissioning will be performed in accordance with the regulations in this chapter and will not be inimical to the common defense and security or to the health and safety of the public, and after notice to interested persons, the Commission will approve the plan subject to such conditions and limitations as it deems appropriate and necessary and issue an order authorizing the decommissioning.

(e) The Commission will terminate the license if it determines that—

(1) The decommissioning has been performed in accordance with the approved final decommissioning plan and the order authorizing decommissioning; and

(2) The terminal radiation survey and associated documentation demonstrates that the ISFSI or MRS and site are suitable for release for unrestricted use.

§ 72.56 Application for amendment of license.

Whenever a holder of a license desires to amend the license, an application for an amendment shall be filed with the Commission fully describing the changes desired and the reasons for such changes, and following as far as applicable the form prescribed for original applications.

§ 72.58 Issuance of amendment.

In determining whether an amendment to a license will be issued to the applicant, the Commission will be guided by the considerations that govern the issuance of initial licenses.

§ 72.60 Modification, revocation, and suspension of license.

(a) The terms and conditions of all licenses are subject to amendment, revision, or modification by reason of amendments to the Atomic Energy Act of 1954, as amended, or by reason or rules, regulations, or orders issued in accordance with the Act or any amendments thereto.

(b) Any license may be modified, revoked, or suspended in whole or in part for any of the following:

(1) Any material false statement in the application or in any statement of fact required under section 182 of the Act;

(2) Conditions revealed by the application or statement of fact or any report, record, inspection or other means which would warrant the Commission to refuse to grant a license on an original application;

(3) Failure to operate an ISFSI or MRS in accordance with the terms of the license;

(4) Violation of, or failure to observe, any of the terms and conditions of the Act, or of any applicable regulation, license, or order of the Commission.

(c) Upon revocation of a license, the Commission may immediately cause the retaking of possession of all special nuclear material contained in spent fuel held by the licensee. In cases found by the Commission to be of extreme importance to the national defense and security or to the health and safety of the public, the Commission prior to following any of the procedures provided under sections 551-558 of title 5 of the United States Code, may cause the taking of possession of any special nuclear material contained in spent fuel held by the licensee.

§ 72.62 Backfitting.

(a) As used in this section, *backfitting* means the addition, elimination, or modification, after the license has been issued, of:

(1) Structures, systems, or components of an ISFSI or MRS, or

(2) Procedures or organization required to operate an ISFSI or MRS.

(b) The Commission will require backfitting of an ISFSI or MRS if it finds that such action is necessary to assure adequate protection to occupational or public health and safety, or to bring the ISFSI or MRS into compliance with a license or the rules or orders of the Commission, or into conformance with written commitments by a licensee.

(c) The Commission may require the backfitting of an ISFSI or MRS if it finds:

(1) That there is a substantial increase in the overall protection of the occupational or public health and safety to be derived from the backfit, and

(2) That the direct and indirect costs of implementation for that ISFSI or MRS are justified in view of this increased protection.

(d) The Commission may at any time require a holder of a license to submit such information concerning the backfitting or the proposed backfitting of an ISFSI or MRS as it deems appropriate.

Subpart D—Records, Reports, Inspections, and Enforcement

§ 72.70 Safety analysis report updating.

(a) The design, description of planned operations, and other information submitted in the Safety Analysis Report shall be updated by the licensee and submitted to the Commission at least once every six months after issuance of the license during final design and construction, until preoperational testing is completed, with final Safety Analysis Report completion and submittal to the Commission at least 90 days prior to the planned receipt of spent fuel or high-level radioactive waste. The final submittal must include a final analysis and evaluation of the design and performance of structures, systems, and components that are important to safety taking into account any pertinent information developed since the submittal of the license application.

(b) After the first receipt of spent fuel or high-level radioactive waste for storage, the Safety Analysis Report must be updated annually and submitted to the Commission by the licensee. This submittal must include the following:

(1) New or revised information relating to applicable site evaluation factors, including the results of environmental monitoring programs.

(2) A description and analysis of changes in the structures, systems, and components of the ISFSI or MRS, with emphasis upon:

(i) Performance requirements,

(ii) The bases, with technical justification therefor upon which such requirements have been established, and

(iii) Evaluations showing that safety functions will be accomplished.

(3) An analysis of the significance of any changes to codes, standards, regulations, or regulatory guides which the licensee has committed to meeting the requirements of which are applicable to the design, construction, or operation of the ISFSI or MRS.

§ 72.72 Material balance, inventory, and records requirements for stored materials.

(a) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all spent fuel and high-level radioactive waste in storage. The records must include as a minimum the name of shipper of the material to the ISFSI or MRS, the estimated quantity of radioactive material per item (including special nuclear material in spent fuel), item identification and seal number, storage location, onsite movements of each fuel assembly or storage canister, and ultimate disposal. These records for spent fuel at an ISFSI or for spent fuel and high-level radioactive waste at an MRS must be retained for as long as the material is stored and for a period of five years after the material is disposed of or transferred out of the ISFSI or MRS.

(b) Each licensee shall conduct a physical inventory of all spent fuel and high-level radioactive waste in storage at intervals not to exceed 12 months unless otherwise directed by the Commission. The licensee shall retain a copy of the current inventory as a record until the Commission terminates the license.

(c) Each licensee shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for material in storage. The licensee shall retain a copy of the current material control and accounting procedures until the Commission terminates the license.

(d) Records of spent fuel and high-level radioactive waste in storage must be kept in duplicate. The duplicate set of records must be kept at a separate location sufficiently remote from the original records that a single event would not destroy both sets of records. Records of spent fuel transferred out of an ISFSI or of spent fuel or high-level radioactive waste transferred out of an MRS must be preserved for a period of five years after the date of transfer.

§ 72.74 Reports of accidental criticality or loss of special nuclear material.

(a) Each licensee shall notify the NRC Operations Center[1] within one hour of discovery of accidental criticality or any loss of special nuclear material.

(b) This notification must be made to the NRC Operations Center via the Emergency Notification System if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or any other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.21(g)(3) of this chapter applies to all telephonic reports required by this section.

(c) Reports required under § 73.71 of this chapter need not be duplicated under the requirements of this section.

§ 72.76 Material status reports.

(a) Except as provided in paragraph (b) of this section, each licensee shall complete and submit to the Commission (on DOE/NRC Form-742, Material Balance Report) material status reports in accordance with the printed instructions for completing the form. These reports must provide information concerning the special nuclear material contained in the spent fuel possessed, received, transferred, disposed of, or lost by the licensee. Material status reports must be made as of March 31 and September 30 of each year and filed within 30 days after the end of the period covered by the report. The Commission may, when good cause is shown, permit a licensee to submit material status reports at other times.

(b) Any licensee who is required to submit routine material status reports pursuant to § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit such reports only as provided in that section instead of as provided in paragraph (a) of this section.

§ 72.78 Nuclear material transfer reports.

(a) Except as provided in paragraph (b) of this section, whenever the licensee transfers or receives spent fuel, the licensee shall complete and distribute a Nuclear Material Transaction Report on DOE/NRC Form-741 in accordance with printed instructions for completing the form. Each ISFSI licensee who receives spent fuel from a foreign source shall complete both the supplier's and receiver's portion of DOE/NRC Form-741, verify the identity of the spent fuel, and indicate the results on the receiver's portion of the form.

(b) Any licensee who is required to submit inventory change reports on DOE/NRC Form-741 pursuant to § 75.34 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit such reports only as provided in that section instead of as provided in paragraph (a) of this section.

§ 72.80 Other records and reports.

(a) Each licensee shall maintain any records and make any reports that may be required by the conditions of the license or by the rules, regulations, and orders of the Commission in effectuating the purposes of the Act.

(b) Each licensee shall furnish a copy of its annual financial report, including the certified financial statements, to the Commission.

(c) Records that are required by the regulations in this part or by the license conditions must be maintained for the period specified by the appropriate regulation or license condition.

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[1] Commercial telephone number of the NRC Operations Center is (301)951-0550.

f a retention period is not otherwise pecified, the above records must be aaintained until the Commission terainates the license.

(d) Any record that must be mainained pursuant to this part may be ither the original or a reproduced opy by any state of the art method rovided that any reproduced copy is uly authenticated by authorized peronnel and is capable of producing a lear and legible copy after storage for he period specified by Commission egulations.

72.82 Inspections and tests.

(a) Each licensee under this part hall permit inspection by duly auhorized representatives of the Comaission of its records, premises, and ctivities and of spent fuel or highevel radioactive waste in its possession elated to the specific license as may e necessary to effectuate the purposes of the Act, including section 105 f the Act.

(b) Each licensee under this part hall make available to the Commision for inspection, upon reasonable otice, records kept by the licensee ertaining to its receipt, possession, ackaging, or transfer of spent fuel or igh-level radioactive waste.

(c)(1) Each licensee under this part hall upon request by the Director, Office of Nuclear Material Safety and afeguards or the appropriate NRC Regional Administrator provide rentree office space for the exclusive use of the Commission inspection personel. Heat, air conditioning, light, elecrical outlets and janitorial services hall be furnished by each licensee. The office shall be convenient to and ave full access to the installation and hall provide the inspector both visual nd acoustic privacy.

(2) v,For a site with a single storage nstallation the space provided shall e adequate to accommodate a fullime inspector, a part-time secretary, nd transient NRC personnel and will e generally commensurate with other ffice facilities at the site. A space of 50 sq. ft., either within the site's ffice complex or in an office trailer, or other onsite space, is suggested as a guide. For sites containing multiple facilities, additional space may be requested to accommodate additional full-time inspectors. The office space that is provided shall be subject to the approval of the Director, Office of Nuclear Material Safety and Safeguards or the appropriate NRC Regional Administrator. All furniture, supplies and Commission equipment will be furnished by the Commission.

(3) Each licensee under this part shall afford any NRC resident inspector assigned to that site, or other NRC inspectors identified by the Regional Administrator as likely to inspect the installation, immediate unfettered access, equivalent to access provided regular plant employees, following proper identification and compliance with applicable access control measures for security, radiological protection, and personal safety.

(d) Each licensee shall perform, or permit the Commission to perform, such tests as the Commission deems appropriate or necessary for the administrator of the regulations in this part.

(e) A report of the preoperational test acceptance criteria and test results must be submitted to the appropriate Regional Office specified in appendix A of part 73 of this chapter with a copy to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, at least 30 days prior to the receipt of spent fuel or high-level radioactive waste.

§ 72.84 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or title II of the Energy Reorganization Act of 1974, as amended, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Atomic Energy Act for violation of sections 53, 57, 62, 63, 81, or 82 of the Atomic Energy Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Atomic Energy Act. Any person who willfully violates any provision of the Atomic Energy Act, or any regulation or order issued thereunder, may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

Subpart E—Siting Evaluation Factors

§ 72.90 General considerations.

(a) Site characteristics that may directly affect the safety or environmental impact of the ISFSI or MRS must be investigated and assessed.

(b) Proposed sites for the ISFSI or MRS must be examined with respect to the frequency and the severity of external natural and maninduced events that could affect the safe operation of the ISFSI or MRS.

(c) Design basis external events must be determined for each combination of proposed site and proposed ISFSI or MRS design.

(d) Proposed sites with design basis external events for which adequate protection cannot be provided through ISFSI or MRS design shall be deemed unsuitable for the location of the ISFSI or MRS.

(e) Pursuant to subpart A of part 51 of this chapter for each proposed site for an ISFSI and pursuant to sections 141 or 148 of NWPA, as appropriate (96 Stat. 2241, 101 Stat. 1330-235, 42 U.S.C. 10161, 10168) for each proposed site for an MRS, the potential for radiological and other environmental impacts on the region must be evaluated with due consideration of the characteristics of the population, including its distribution, and of the regional environs, including its historical and esthetic values.

(f) The facility must be sited so as to avoid to the extent possible the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains.

§ 72.92 Design basis external natural events.

(a) Natural phenomena that may exist or that can occur in the region of a proposed site must be identified and assessed according to their potential effects on the safe operation of the ISFSI or MRS. The important natural phenomena that affect the ISFSI or MRS design must be identified.

(b) Records of the occurrence and severity of those important natural phenomena must be collected for the region and evaluated for reliability, accuracy, and completeness. The applicant shall retain these records until the license is issued.

(c) Appropriate methods must be adopted for evaluating the design basis external natural events based on the characteristics of the region and the current state of knowledge about such events.

§ 72.94 Design basis external man-induced events.

(a) The region must be examined for both past and present man-made facilities and activities that might endanger the proposed ISFSI or MRS. The important potential man-induced events that affect the ISFSI or MRS design must be identified.

(b) Information concerning the potential occurrence and severity of such events must be collected and evaluated for reliability, accuracy, and completeness.

(c) Appropriate methods must be adopted for evaluating the design basis external man-induced events, based on the current state of knowledge about such events.

§ 72.96 Siting limitations.

(a) An ISFSI which is owned and operated by DOE must not be located at any site within which there is a candidate site for a HLW repository. This limitation shall apply until such time as DOE decides that such candidate site is no longer a candidate site under consideration for development as a HLW repository.

(b) An MRS must not be sited in any State in which there is located any site approved for site characterization for a HLW repository. This limitation shall apply until such time as DOE decides that the candidate site is no longer a candidate site under consideration for development as a repository. This limitation shall continue to apply to any site selected for construction as a repository.

(c) If an MRS is located, or is planned to be located, within 50 miles of the first HLW repository, any Commission decision approving the first HLW repository application must limit the quantity of spent fuel or high-level radioactive waste that may be stored. This limitation shall prohibit the storage of a quantity of spent fuel containing in excess of 70,000 metric tons of heavy metal, or a quantity of solidified high-level radioactive waste resulting from the reprocessing of such a quantity of spent fuel, in both the repository and the MRS until such time as a second repository is in operation.

(d) An MRS authorized by section 142(b) of NWPA (101 Stat. 1330-232, 42 U.S.C. 10162(b)) may not be constructed in the State of Nevada. The quantity of spent nuclear fuel or high-level radioactive waste that may be stored at an MRS authorized by section 142(b) of NWPA shall be subject to the limitations in § 72.44(g) of this part instead of the limitations in paragraph (c) of this section.

§ 72.98 Identifying regions around an ISFSI or MRS site.

(a) The regional extent of external phenomena, man-made or natural, that are used as a basis for the design of the ISFSI or MRS must be identified.

(b) The potential regional impact due to the construction, operation or decommissioning of the ISFSI or MRS must be identified. The extent of regional impacts must be determined on the basis of potential measurable effects on the population or the environment from ISFSI or MRS activities.

(c) Those regions identified pursuant to paragraphs (a) and (b) of this section must be investigated as appropriate with respect to:

(1) The present and future character and the distribution of population,

(2) Consideration of present and projected future uses of land and water within the region, and

(3) Any special characteristics that may influence the potential consequences of a release of radioactive material during the operational lifetime of the ISFSI or MRS.

§ 72.100 Defining potential effects of the ISFSI or MRS on the region.

(a) The proposed site must be evaluated with respect to the effects on populations in the region resulting from the release of radioactive materials under normal and accident conditions during operation and decommissioning of the ISFSI or MRS; in this evaluation both usual and unusual regional and site characteristics shall be taken into account.

(b) Each site must be evaluated with respect to the effects on the regional environment resulting from construction, operation, and decommissioning for the ISFSI or MRS; in this evaluation both usual and unusual regional and site characteristics must be taken into account.

§ 72.102 Geological and seismological characteristics.

(a)(1) East of the Rocky Mountain Front (east of approximately 104° west longitude), except in areas of known seismic activity including but not limited to the regions around New Madrid, MO, Charleston, SC, and Attica, NY, sites will be acceptable if the results from onsite foundation and geological investigation, literature review, and regional geological reconnaissance show no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g.

(2) For those sites that have been evaluated under paragraph (a)(1) of this section that are east of the Rocky Mountain Front, and that are not in areas of known seismic activity, a standardized design earthquake (DE) described by an appropriate response spectrum anchored at 0.25 g may be used. Alternatively, a site-specific DE may be determined by using the criteria and level of investigations required by appendix A of part 100 of this chapter.

(b) West of the Rocky Mountain Front (west of approximately 104° west longitude), and in other areas of known potential seismic activity, seismicity will be evaluated by the techniques of appendix A of part 100 of this chapter. Sites that lie within the range of strong near-field ground motion from historical earthquakes on large capable faults should be avoided.

(c) Sites other than bedrock sites must be evaluated for their liquefaction potential or other soil instability due to vibratory ground motion.

(d) Site-specific investigations and laboratory analyses must show that soil conditions are adequate for the proposed foundation loading.

(e) In an evaluation of alternative sites, those which require a minimum of engineered provisions to correct site deficiencies are preferred. Sites with unstable geologic characteristics should be avoided.

(f) The design earthquake (DE) for use in the design of structures must be determined as follows:

(1) For sites that have been evaluated under the criteria of appendix A of 10 CFR part 100, the DE must be equivalent to the safe shutdown earthquake (SSE) for a nuclear power plant.

(2) Regardless of the results of the investigations anywhere in the continental U.S., the DE must have a value for the horizontal ground motion of no less than 0.10 g with the appropriate response spectrum.

§ 72.104 Criteria for radioactive materials in effluents and direct radiation from an ISFSI or MRS.

(a) During normal operations and anticipated occurrences, the annual dose equivalent to any real individual who is located beyond the controlled area must not exceed 25 mrem to the whole body, 75 mrem to the thyroid and 25 mrem to any other organ as a result of exposure to:

(1) Planned discharges of radioactive materials, radon and its decay products excepted, to the general environment,

(2) Direct radiation from ISFSI or MRS operations, and

(3) Any other radiation from uranium fuel cycle operations within the region.

(b) Operational restrictions must be established to meet as low as is reasonably achievable objectives for radioactive materials in effluents and direct radiation levels associated with ISFSI or MRS operations.

(c) Operational limits must be established for radioactive materials in effluents and direct radiation levels associated with ISFSI or MRS operations to meet the limits given in paragraph (a) of this section.

§ 72.106 Controlled area of an ISFSI or MRS.

(a) For each ISFSI or MRS site, a controlled area must be established.

(b) Any individual located on or beyond the nearest boundary of the controlled area shall not receive a dose greater than 5 rem to the whole body or any organ from any design basis accident. The minimum distance from the spent fuel or high-level radioactive waste handling and storage facilities to the nearest boundary of the controlled area shall be at least 10 meters.

(c) The controlled area may be traversed by a highway, railroad or waterway, so long as appropriate and effective arrangements are made to control traffic and to protect public health and safety.

§ 72.108 Spent fuel or high-level radioactive waste transportation.

The proposed ISFSI or MRS must be evaluated with respect to the potential impact on the environment of the transportation of spent fuel or high-level radioactive waste within the region.

Subpart F—General Design Criteria

§ 72.120 General considerations.

(a) Pursuant to the provisions of § 72.24, an application to store spent fuel in an ISFSI or to store spent fuel or high-level radioactive waste in an MRS must include the design criteria for the proposed storage installation. These design criteria establish the design, fabrication, construction, testing, maintenance and performance requirements for structures, systems and components important to safety as defined in § 72.3. The general design criteria identified in this subpart establish minimum requirements for the design criteria for an ISFSI or MRS. Any omissions in these general design criteria do not relieve the applicant from the requirement of providing the necessary safety features in the design of the ISFSI or MRS.

(b) The MRS must be designed to store either spent fuel or solid high-level radioactive wastes. Liquid high-level radioactive wastes may not be received or stored in an MRS. If the MRS is a water-pool type facility, the solidified waste form shall be a durable solid with demonstrable leach resistance.

§ 72.122 Overall requirements.

(a) *Quality Standards.* Structures, systems, and components important to safety must be designed, fabricated, erected, and tested to quality standards commensurate with the importance to safety of the function to be performed.

(b) *Protection against environmental conditions and natural phenomena.* (1) Structures, systems, and components important to safety must be designed to accommodate the effects of, and to be compatible with, site characteristics and environmental conditions associated with normal operation, maintenance, and testing of the ISFSI or MRS and to withstand postulated accidents.

(2) Structures, systems, and components important to safety must be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, lighting, hurricanes, floods, tsunami, and seiches, without impairing their capability to perform safety functions. The design bases for these structures, systems, and components must reflect:

(i) Appropriate consideration of the most severe of the natural phenomena reported for the site and surrounding area, with appropriate margins to take into account the limitations of the data and the period of time in which the data have accumulated, and

(ii) Appropriate combinations of the effects of normal and accident conditions and the effects of natural phenomena.

The ISFSI or MRS should also be designed to prevent massive collapse of building structures or the dropping of heavy objects as a result of building structural failure on the spent fuel or high-level radioactive waste or on to structures, systems, and components important to safety.

(3) Capability must be provided for determining the intensity of natural phenomena that may occur for comparison with design bases of structures, systems, and components important to safety.

(4) If the ISFSI or MRS is located over an aquifer which is a major water resource, measures must be taken to preclude the transport of radioactive materials to the environment through this potential pathway.

(c) *Protection against fires and explosions.* Structures, systems, and components important to safety must be designed and located so that they can continue to perform their safety functions effectively under credible fire and explosion exposure conditions. Noncombustible and heat-resistant materials must be used wherever practical throughout the ISFSI or MRS, particularly in locations vital to the control of radioactive materials and to the maintenance of safety control functions. Explosion and fire detection, alarm, and suppression systems shall be designed and provided with sufficient capacity and capability to minimize the adverse effects of fires and explosions on structures, systems, and components important to safety. The design of the ISFSI or MRS must include provisions to protect against adverse effects that might result from either the operation or the failure of the fire suppression system.

(d) *Sharing of structures, systems, and components.* Structures, systems, and components important to safety must not be shared between an ISFSI or MRS and other facilities unless it is shown that such sharing will not impair the capability of either facility to perform its safety functions, including the ability to return to a safe condition in the event of an accident.

(e) *Proximity of sites.* An ISFSI or MRS located near other nuclear facilities must be designed and operated to ensure that the cumulative effects of their combined operations will not constitute an unreasonable risk to the health and safety of the public.

(f) *Testing and maintenance of systems and components.* Systems and components that are important to safety must be designed to permit inspection, maintenance, and testing.

(g) *Emergency capability.* Structures, systems, and components important to safety must be designed for emergencies. The design must provide for accessibility to the equipment of onsite and available offsite emergency facilities and services such as hospitals, fire and police departments, ambulance service, and other emergency agencies.

(h) *Confinement barriers and systems.* (1) The spent fuel cladding must be protected during storage against degradation that leads to gross ruptures or the fuel must be otherwise confined such that degradation of the fuel during storage will not pose operational safety problems with respect to its removal from storage. This may be accomplished by canning of consolidated fuel rods or unconsolidated assemblies or other means as appropriate.

(2) For underwater storage of spent fuel or high-level radioactive waste in which the pool water serves as a shield and a confinement medium for radioactive materials, systems for maintaining water purity and the pool water level must be designed so that any abnormal operations or failure in those systems from any cause will not cause the water level to fall below safe limits. The design must preclude installations of drains, permanently connected systems, and other features that could, by abnormal operations or failure, cause a significant loss of water. Pool water level equipment must be provided to alarm in a continuously manned location if the water level in the storage pools falls below a predetermined level.

(3) Ventilation systems and off-gas systems must be provided where necessary to ensure the confinement of airborne radioactive particulate materials during normal or off-normal conditions.

(4) Storage confinement systems must have the capability for continuous monitoring in a manner such that the licensee will be able to determine when corrective action needs to be taken to maintain safe storage conditions.

(5) The high-level radioactive waste must be packaged in a manner that allows handling and retrievability without the release of radioactive materials to the environment or radiation exposures in excess of part 20 limits. The package must be designed to confine the high-level radioactive waste for the duration of the license.

(i) *Instrumentation and control systems.* Instrumentation and control systems must be provided to monitor systems that are important to safety over anticipated ranges for normal operation and off-normal operation. Those instruments and control systems that must remain operational under accident conditions must be identified in the Safety Analysis Report.

(j) *Control room or control area.* A control room or control area, if appropriate for the ISFSI or MRS design, must be designed to permit occupancy and actions to be taken to monitor the ISFSI or MRS safely under normal conditions, and to provide safe control of the ISFSI or MRS under off-normal or accident conditions.

(k) *Utility or other services.* (1) Each utility service system must be designed to meet emergency conditions. The design of utility services and distribution systems that are important to safety must include redundant systems to the extent necessary to maintain, with adequate capacity, the ability to perform safety functions assuming a single failure.

(2) Emergency utility services must be designed to permit testing of the functional operability and capacity, including the full operational sequence, of each system for transfer between normal and emergency supply sources; and to permit the operation of associated safety systems.

(3) Provisions must be made so that, in the event of a loss of the primary electric power source or circuit, reliable and timely emergency power will be provided to instruments, utility service systems, the central security alarm station, and operating systems, in amounts sufficient to allow safe storage conditions to be maintained

and to permit continued functioning of all systems essential to safe storage.

(4) An ISFSI or MRS which is located on the site of another facility may share common utilities and services with such a facility and be physically connected with the other facility; however, the sharing of utilities and services or the physical connection must not significantly:

(i) Increase the probability or consequences of an accident or malfunction of components, structures, or systems that are important to safety; or

(ii) Reduce the margin of safety as defined in the basis for any technical specifications of either facility.

(l) *Retrievability.* Storage systems must be designed to allow ready retrieval of spent fuel or high-level radioactive waste for further processing or disposal.

§ 72.124 Criteria for nuclear criticality safety.

(a) *Design for criticality safety.* Spent fuel handling, packaging, transfer, and storage systems must be designed to be maintained subcritical and to ensure that, before a nuclear criticality accident is possible, at least two unlikely, independent, and concurrent or sequential changes have occurred in the conditions essential to nuclear criticality safety. The design of handling, packaging, transfer, and storage systems must include margins of safety for the nuclear criticality parameters that are commensurate with the uncertainties in the data and methods used in calculations and demonstrate safety for the handling, packaging, transfer and storage conditions and in the nature of the immediate environment under accident conditions.

(b) *Methods of criticality control.* When practicable the design of an ISFSI or MRS must be based on favorable geometry, permanently fixed neutron absorbing materials (poisons), or both. Where solid neutron absorbing materials are used, the design shall provide for positive means to verify their continued efficacy.

(c) *Criticality Monitoring.* A criticality monitoring system shall be maintained in each area where special nuclear material is handled, used, or stored which will energize clearly audible alarm signals if accidental criticality occurs. Underwater monitoring is not required when special nuclear material is handled or stored beneath water shielding. Monitoring of dry storage areas where special nuclear material is packaged in its stored configuration under a license issued under this subpart is not required.

§ 72.126 Criteria for radiological protection.

(a) *Exposure control.* Radiation protection systems must be provided for all areas and operations where onsite personnel may be exposed to radiation or airborne radioactive materials. Structures, systems, and components for which operation, maintenance, and required inspections may involve occupational exposure must be designed, fabricated, located, shielded, controlled, and tested so as to control external and internal radiation exposures to personnel. The design must include means to:

(1) Prevent the accumulation of radioactive material in those systems requiring access;

(2) Decontaminate those systems to which access is required;

(3) Control access to areas of potential contamination or high radiation within the ISFSI or MRS;

(4) Measure and control contamination of areas requiring access;

(5) Minimize the time required to perform work in the vicinity of radioactive components; for example, by providing sufficient space for ease of operation and designing equipment for ease of repair and replacement; and

(6) Shield personnel from radiation exposure.

(b) *Radiological alarm systems.* Radiological alarm systems must be provided in accessible work areas as appropriate to warn operating personnel of radiation and airborne radioactive material concentrations above a given setpoint and of concentrations of radioactive material in effluents above control limits. Radiation alarm systems must be designed with provisions for calibration and testing their operability.

(c) *Effluent and direct radiation monitoring.* (1) As appropriate for the handling and storage system, effluent systems must be provided. Means for measuring the amount of radionuclides in effluents during normal operations and under accident conditions must be provided for these systems. A means of measuring the flow of the diluting medium, either air or water, must also be provided.

(2) Areas containing radioactive materials must be provided with systems for measuring the direct radiation levels in and around these areas.

(d) *Effluent control.* The ISFSI or MRS must be designed to provide means to limit to levels as low as is reasonably achievable the release of radioactive materials in effluents during normal operations; and control the release of radioactive materials under accident conditions. Analyses must be made to show that releases to the general environment during normal operations and anticipated occurrences will be within the exposure limit given in § 72.104. Analyses of design basis accidents must be made to show that releases to the general environment will be within the exposure limits given in § 72.106. Systems designed to monitor the release of radioactive materials must have means for calibration and testing their operability.

§ 72.128 Criteria for spent fuel, high-level radioactive waste, and other radioactive waste storage and handling.

(a) *Spent fuel and high-level radioactive waste storage and handling systems.* Spent fuel storage, high-level radioactive waste storage, and other systems that might contain or handle radioactive materials associated with spent fuel or high-level radioactive waste, must be designed to ensure adequate safety under normal and accident conditions. These systems must be designed with—

(1) A capability to test and monitor components important to safety,

(2) Suitable shielding for radioactive protection under normal and accident conditions,

(3) Confinement structures and systems,

(4) A heat-removal capability having testability and reliability consistent with its importance to safety, and

(5) means to minimize the quantity of radioactive wastes generated.

(b) *Waste treatment.* Radioactive waste treatment facilities must be provided. Provisions must be made for the packing of site-generated low-level wastes in a form suitable for storage onsite awaiting transfer to disposal sites.

§ 72.130 Criteria for decommissioning.

The ISFSI or MRS must be designed for decommissioning. Provisions must be made to facilitate decontamination of structures and equipment, minimize the quantity of radioactive wastes and contaminated equipment, and facilitate the removal of radioactive wastes and contaminated materials at the time the ISFSI or MRS is permanently decommissioned.

Subpart G—Quality Assurance

§ 72.140 Quality assurance requirements.

(a) *Purpose.* This subpart describes quality assurance requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, modification of structures, systems, and components, and decommissioning that are important to safety. As used in this subpart, "quality assurance" comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to control of the physical characteristics and quality of the material or component to predetermined requirements.

(b) *Establishment of program.* Each licensee[2] shall establish, maintain and execute a quality assurance program satisfying each of the applicable criteria of this subpart, and satisfying any specific provisions which are applicable to the licensee's activities. The licensee shall execute the applicable criteria in a graded approach to an extent that is commensurate with the importance to safety. The quality assurance program must cover the activities identified in § 72.24(n) throughout the life of the licensed activity, from the site selection through decommissioning, prior to termination of the license.

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[2] While the term "licensee" is used in these criteria, the requirements are applicable to whatever design, construction, fabrication, assembly, and testing is accomplished with respect to structures, systems and components prior to the time a license is issued.

(c) *Approval of program.* Prior to receipt of spent fuel at the ISFSI or spent fuel and high-level radioactive waste at the MRS, each licensee shall obtain Commission approval of its quality assurance program. Each licensee shall file a description of its quality assurance program, including a discussion of which requirements of this subpart are applicable and how they will be satisfied, with the Director, Office of Nuclear Material and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(d) *Previously approved programs.* A Commission-approved quality assurance program which satisfies the applicable criteria of appendix B to part 50 of this chapter and which is established, maintained, and executed with regard to an ISFSI will be accepted as satisfying the requirements of paragraph (b) of this section. Prior to first use, the licensee shall notify the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, of its intent to apply its previously approved appendix B program to ISFSI activities. The licensee shall identify the program by date of submittal to the Commission, docket number, and date of Commission approval.

§ 72.142 Quality assurance organization.

The licensee shall be responsible for the establishment and execution of the quality assurance program. The licensee may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, but shall retain responsibility for the program. The licensee shall clearly establish and delineate in writing the authority and duties of persons and organizations performing activities affecting the functions of structures, systems and components which are important to safety. These activities include performing the functions associated with attaining quality objectives and the quality assurance functions. The quality assurance functions are:

(a) Assuring that an appropriate quality assurance program is established and effectively executed and

(b) Verifying, by procedures such as checking, auditing, and inspection, that activities affecting the functions that are important to safety have been correctly performed. The persons and organizations performing quality assurance functions must have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions.

The persons and organizations performing quality assurance functions shall report to a management level that ensures that the required authority and organizational freedom, including sufficient independence from cost and schedule considerations when these considerations are opposed to safety considerations, are provided. Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location or locations where activities are performed, the organizational structure for executing the quality assurance program may take various forms provided that the persons and organizations assigned the quality assurance functions have the required authority and organizational freedom. Irrespective of the organizational structure, the individual(s) assigned the responsibility for assuring effective execution of any portion of the quality assurance program at any location where activities subject to this section are being performed must have direct access to the levels of management necessary to perform this function.

§ 72.144 Quality assurance program.

(a) The licensee shall establish, at the earliest practicable time consistent with the schedule for accomplishing the activities, a quality assurance program which complies with the requirements of this subpart. The licensee shall document the quality assurance program by written procedures or instructions and shall carry out the program in accordance with these procedures throughout the period during which the ISFSI or MRS is licensed. The licensee shall identify the structures, systems, and components to be covered by the quality assurance program, the major organizations participating in the program, and the designated functions of these organizations.

(b) The licensee, through its quality assurance program, shall provide control over activities affecting the quality of the identified structures, systems, and components to an extent commensurate with the importance to safety, and as necessary to ensure conformance to the approved design of each ISFSI or MRS. The licensee shall ensure that activities affecting quality are accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The licensee shall take into account the need for special controls, processes, test equipment, tools and skills to attain the required quality and the need for verification of quality by inspection and test.

(c) The licensee shall base the requirements and procedures of its quality assurance program on the following considerations concerning the complexity and proposed use of the structures, systems, or components:

(1) The impact of malfunction or failure of the item on safety;

(2) The design and fabrication complexity or uniqueness of the item;

(3) The need for special controls and surveillance over processes and equipment;

(4) The degree to which functional compliance can be demonstrated by inspection or test; and

(5) The quality history and degree of standardization of the item.

(d) The licensee shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to ensure that suitable proficiency is achieved and maintained. The licensee shall review the status and adequacy of the quality assurance program at established intervals. Management of other organizations participating in the quality assurance program shall regularly review the status and adequacy of that part of the quality assurance program which they are executing.

§ 72.146 Design control.

(a) The licensee shall establish measures to ensure that applicable regulatory requirements and the design basis, as specified in the license application for those structures, systems, and components to which this section applies, are correctly translated into specifications, drawings, procedures, and instructions. These measures must include provisions to ensure that appropriate quality standards are specified and included in design documents and that deviations from standards are controlled. Measures must be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the functions of the structures, systems, and components which are important to safety.

(b) The licensee shall establish measures for the identification and control of design interfaces and for coordination among participating design organizations. These measures must include the establishment of written procedures among participating design organizations for the review, approval, release, distribution, and revision of documents involving design interfaces. The design control measures must provide for verifying or checking the adequacy of design, by methods such as design reviews, alternate or simplified calculational methods, or by a suitable testing program. For the verifying or checking process, the licensee shall designate individuals or groups other than those who were responsible for the original design, but who may be from the same organization. Where a test program is used to verify the adequacy of a specific design feature in lieu of other verifying or checking processes, the licensee shall include suitable qualification testing of a prototype or sample unit under the most adverse design conditions. The licensee shall apply design control measures to items such as the following: criticality physics, radiation, shielding, stress, thermal, hydraulic, and accident analyses; compatibility of materials; accessibility for inservice inspection, maintenance, and repair; features to facilitate decontamination; and delineation of acceptance criteria for inspections and tests.

(c) The licensee shall subject design changes, including field changes, to design control measures commensurate with those applied to the original design. Changes in the conditions specified in the license require NRC approval.

§ 72.148 Procurement document control.

The licensee shall establish measures to assure that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are included or referenced in the documents for procurement of material, equipment, and services, whether purchased by the licensee or by its contractors or subcontractors. To the extent necessary, the licensee shall require contractors or subcontractors to provide a quality assurance program consistent with the applicable provisions of this subpart.

§ 72.150 Instructions, procedures, and drawings.

The licensee shall prescribe activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall require that these instructions, procedures, and drawings be followed. The instructions, procedures, and drawings must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

§ 72.152 Document control.

The licensee shall establish measures to control the issuance of documents such as instructions, procedures, and drawings, including changes, which prescribe all activities affecting quality. These measures must assure that documents, including changes, are reviewed for adequacy, approved for release by authorized personnel, and distributed and used at the location where the prescribed activity is performed. These measures must ensure that changes to documents are reviewed and approved.

§ 72.154 Control of purchased material, equipment, and services.

(a) The licensee shall establish measures to ensure that purchased material, equipment and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures must include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery.

(b) The licensee shall have available documentary evidence that material and equipment conform to the procurement specifications prior to installation or use of the material and equipment. The licensee shall retain or have available this documentary evidence for the life of ISFSI or MRS. The licensee shall ensure that the evidence is sufficient to identify the specific requirements met by the purchased material and equipment.

(c) The licensee or designee shall assess the effectiveness of the control of quality by contractors and subcontractors at intervals consistent with the importance, complexity, and quantity of the product or services.

§ 72.156 Identification and control of materials, parts, and components.

The licensee shall establish measures for the identification and control of materials, parts, and components. These measures must ensure that identification of the item is maintained by heat number, part number, serial number, or other appropriate means, either on the item or on records traceable to the item as required, throughout fabrication, installation, and use of the item. These identification and control measures must be designed to prevent the use of incorrect or defective materials, parts, and components.

§ 72.158 Control of special processes.

The licensee shall establish measures to ensure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

§ 72.160 Licensee inspection.

The licensee shall establish and execute a program for inspection of activities affecting quality by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. The inspection must be performed by individuals other than those who performed the activity being inspected. Examinations, measurements, or tests of material or products processed must be performed for each work operation where necessary to assure quality. If direct inspection of processed material or products cannot be carried out, indirect control by monitoring processing methods, equipment, and personnel must be provided. Both inspection and process monitoring must be provided when quality control is inadequate without both. If mandatory inspection hold points, which require witnessing or inspecting by the licensee's designated representative and beyond which work should not proceed without the consent of its designated representative, are required, the specific hold points must be indicated in appropriate documents.

§ 72.162 Test control.

The licensee shall establish a test program to ensure that all testing required to demonstrate that the structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures that incorporate the requirements of this part and the requirements and acceptance limits contained in the ISFSI or MRS license. The test procedures must include provisions for assuring that all prerequisites for the given test are met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. The licensee shall document and evaluate the test results to ensure that test requirements have been satisfied.

§ 72.164 Control of measuring and test equipment.

The licensee shall establish measures to ensure that tools, gauges, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits.

§ 72.166 Handling, storage, and shipping control.

The licensee shall establish measures to control, in accordance with work and inspection instructions, the handling, storage, shipping, cleaning, and preservation of materials and equipment to prevent damage or deterioration. When necessary for particular products, special protective environments, such as inert gas atmosphere, and specific moisture content and temperature levels must be specified and provided.

§ 72.168 Inspection, test, and operating status.

(a) The licensee shall establish measures to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the ISFSI or MRS. These measures must provide for the identification of items which have satisfactorily passed required inspections and tests where necessary to preclude inadvertent bypassing of the inspections and tests.

(b) The licensee shall establish measures to identify the operating status of structures, systems, and components of the ISFSI or MRS, such as tagging valves and switches, to prevent inadvertent operation.

§ 72.170 Nonconforming materials, parts, or components.

The licensee shall establish measures to control materials, parts, or components that do not conform to the licensee's requirements in order to prevent their inadvertent use or installation. These measures must include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items must be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures.

§ 72.172 Corrective action.

The licensee shall establish measures to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of a significant condition adverse to quality, the measures must ensure that the cause of the condition is determined and corrective action is taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken must be documented and reported to appropriate levels of management.

§ 72.174 Quality assurance records.

The licensee shall maintain sufficient records to furnish evidence of activities affecting quality. The records must include the following: design records, records of use and the results of reviews, inspections, tests, audits, monitoring of work performance, and materials analyses. The records must include closely related data such as qualifications of personnel, procedures, and equipment. Inspection and test records must, at a minimum, identify the inspector or data recorder, the type of observation, the results, the acceptability, and the action taken in connection with any noted deficiencies. Records must be identifiable and retrievable. Records pertaining to the design, fabrication, erection, testing, maintenance, and use of structures, systems, and components important to safety shall be maintained by or under the control of the licensee until the Commission terminates the license.

§ 72.176 Audits.

The licensee shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits must be performed in accordance with written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audited results must be documented and reviewed by management having responsibility in the area audited. Follow-up action, including re-audit of deficient areas, must be taken where indicated.

Subpart H—Physical Protection

§ 72.180 Physical security plan.

The licensee shall establish a detailed plan for security measures for physical protection. The licensee shall retain a copy of the current plan as a record until the Commission terminates the license for which the procedures were developed and, if any portion of the plan is superseded, retain the superseded material for three years after each change. This plan must consist of two parts. Part I must demonstrate how the applicant plans to comply with the applicable requirements of part 73 of this chapter and during transportation to and from the proposed ISFSI or MRS and must include the design for physical protection and the licensee's safeguards contingency plan and guard training plan. Part II must list tests, inspections, audits, and other means to be used to demonstrate compliance with such requirements.

§ 72.182 Design for physical protection.

The design for physical protection must show the site layout and the design features provided to protect the ISFSI or MRS from sabotage. It must include:

(a) The design criteria for the physical protection of the proposed ISFSI or MRS;

(b) The design bases and the relation of the design bases to the design criteria submitted pursuant to paragraph (a) of this section; and

(c) Information relative to materials of construction, equipment, general arrangement, and proposed quality assurance program sufficient to provide reasonable assurance that the final security system will conform to the design bases for the principal design criteria submitted pursuant to paragraph (a) of this section.

§ 72.184 Safeguards contingency plan.

(a) The requirements of the licensee's safeguards contingency plan for dealing with threats and radiological sabotage must be as defined in § 73.40(b) of this chapter. This plan must include Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix, the first four categories of information relating to nuclear facilities licensed under part 50 of this chapter. (The fifth category of information, Procedures, does not have to be submitted for approval.)

(b) The licensee shall prepare and maintain safeguards contingency plan procedures in accordance with appendix C to 10 CFR part 73 for effecting the actions and decisions contained in the Responsibility Matrix of the licensee's safeguards contingency plan. The licensee shall retain a copy of the current procedures as a record until the Commission terminates the license for which the procedures were developed and, if any portion of the procedures is superseded, retain the superseded material for three years after each change.

§ 72.186 Change to physical security and safeguards contingency plans.

(a) The licensee shall make no change that would decrease the safeguards effectiveness of the physical security plan, guard training plan or the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix) contained in the licensee safeguards contingency plan without prior approval of the Commission. A licensee desiring to make a change must submit an application for a license amendment pursuant to § 72.56.

(b) The licensee may, without prior Commission approval, make changes to the physical security plan, guard training plan, or the safeguards contingency plan, if the changes do not decrease the safeguards effectiveness of these plans. The licensee shall maintain records of changes to any such plan made without prior approval for a period of three years from the date of the change and shall furnish to the Regional Administrator of the appropriate NRC Regional Office specified in appendix A of part 73 of this chapter, with a copy to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, a report containing a description of each change within two months after the change is made.

Subpart I—Training and Certification of Personnel

§ 72.190 Operator requirements.

Operation of equipment and controls that have been identified as important to safety in the Safety Analysis Report and in the license must be limited to trained and certified personnel or be under the direct visual supervision of an individual with training and certification in the operation. Supervisory personnel who personally direct the operation of equipment and controls that are important to safety must also be certified in such operations.

§ 72.192 Operator training and certification program.

The applicant for a license under this part shall establish a program for training, proficiency testing, and certification of ISFSI or MRS personnel. This program must be submitted to the Commission for approval with the license application.

§ 72.194 Physical requirements.

The physical condition and the general health of personnel certified for the operation of equipment and controls that are important to safety must not be such as might cause operational errors that could endanger other in-plant personnel or the public health and safety. Any condition that might cause impaired judgment or motor coordination must be considered in the selection of personnel for activities that are important to safety. These conditions need not categorically disqualify a person, if appropriate provisions are made to accommodate such defect.

Subpart J—Provision of MRS Information to State Governments and Indian Tribes

§ 72.200 Provision of MRS information.

(a) The Director, Office of Nuclear Material Safety and Safeguards, or the Director's designee shall provide to the Governor and legislature of any State in which an MRS authorized under the Nuclear Waste Policy Act of 1982, as amended, is or may be located, to the Governors of any contiguous States, to each affected unit of local government and to the governing body of any affected Indian tribe, timely and complete information regarding determinations or plans made by the Commission with respect to siting, development, design, licensing, construction, operation, regulation or decommissioning of such monitored retrievable storage facility.

(b) Notwithstanding paragraph (a) of this section, the Director or the Director's designee is not required to distribute any document to any entity if, with respect to such document, that entity or its counsel is included on a service list prepared pursuant to part 2 of this chapter.

(c) Copies of all communications by the Director or the Director's designee under this section shall be placed in the Commission's Public Document Room and shall be furnished to DOE.

§ 72.202 Participation in license reviews.

State and local governments and affected Indian tribes may participate in license reviews as provided in subpart G of part 2 of this chapter.

§ 72.204 Notice to States.

If the Governor and legislature of a State have jointly designated on their behalf a single person or entity to receive notice and information from the Commission under this part, the Commission will provide such notice and information to the jointly designated person or entity instead of the Governor and the legislature separately.

§ 72.206 Representation.

Any person who acts under this subpart as a representative for a State (or for the Governor or legislature thereof) or for an affected Indian tribe shall include in the request or other submission, or at the request of the Commission, a statement of the basis of his or her authority to act in such representative capacity.

Subpart K—General License for Storage of Spent Fuel at Power Reactor Sites

SOURCE: 55 FR 29191, July 18, 1990, unless otherwise noted.

§ 72.210 General license issued.

A general license is hereby issued for the storage of spent fuel in an independent spent fuel storage installation at power reactor sites to persons authorized to possess or operate nuclear power reactors under part 50 of this chapter.

§ 72.212 Conditions of general license issued under § 72.210.

(a)(1) The general license is limited to that spent fuel which the general licensee is authorized to possess at the site under the specific license for the site.

(2) This general license is limited to storage of spent fuel in casks approved under the provisions of this part.

(3) The general license for the storage of spent fuel in each cask fabricated under a Certificate of Compliance terminates 20 years after the date that the particular cask is first used by the general licensee to store spent fuel, unless the cask's Certificate of Compliance is renewed, in which case the general license terminates 20 years after the cask's Certificate of Compli-

ance renewal date. In the event that a cask vendor does not apply for a cask model reapproval under § 72.240, any cask user or user's representative may apply for a cask design reapproval. If a Certificate of Compliance expires, casks of that design must be removed from service after a storage period not to exceed 20 years.

(b) The general licensee shall:

(1)(i) Notify the Nuclear Regulatory Commission using instructions in § 72.4 at least 90 days prior to first storage of spent fuel under this general license. The notice may be in the form of a letter, but must contain the licensee's name, address, reactor license and docket numbers, and the name and means of contacting a person responsible for providing additional information concerning spent fuel under this general license. A copy of the submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(ii) Register use of each cask with the Nuclear Regulatory Commission no later than 30 days after using that cask to store spent fuel. This registration may be accomplished by submitting a letter using instructions in § 72.4 containing the following information: the licensee's name and address, the licensee's reactor license and docket numbers, the name and title of a person responsible for providing additional information concerning spent fuel storage under this general license, the cask certificate and model numbers, and the cask identification number. A copy of each submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(iii) Fee. Fees for inspections related to spent fuel storage under this general license are those shown in § 170.31 of this chapter.

(2) Perform written evaluations, prior to use, that establish that (i) conditions set forth in the Certificate of Compliance have been met; (ii) cask storage pads and areas have been designed to adequately support the statis load of the stored casks; and (iii) the requirements of § 72.104 have been met. A copy of this record must be retained until spent fuel is no longer stored under the general license issued under § 72.210.

(3) Review the Safety Analysis Report (SAR) referenced in the Certificate of Compliance and the related NRC Safety Evaluation Report, prior to use of the general license, to determine whether or not the reactor site parameters, including analyses of earthquake intensity and tornado missiles, are enveloped by the cask design bases considered in these reports. The results of this review must be documented in the evaluation made in paragraph (b)(2) of this section.

(4) Prior to use of the general license, determine whether activities related to storage of spent fuel under this general license involve any unreviewed facility safety question or change in the facility technical specifications, as provided under § 50.59. Results of this determination must be documented in the evaluation made in paragraph (b)(2) of this section.

(5) Protect the spent fuel against the design basis threat of radiological sabotage in accordance with the same provisions and requirements as are set forth in the licensee's physical security plan pursuant to § 73.55 of this chapter with the following additional conditions and exceptions.

(i) The physical security organization and program for the facility must be modified as necessary to assure that activities conducted under this general license do not decrease the effectivenss of the protection of vital equipment in accordance with § 73.55 of this chapter.

(ii) Storage of spent fuel must be within a protected area, in accordance with § 73.55(c) of this chapter, but need not be within a separate vital area. Existing protected areas may be expanded or new protected areas added for the purpose of storage of spent fuel in accordance with this general license.

(iii) For purposes of this general license, searches required by § 73.55(d)(1) of this chapter before admission to a new protected area may be performed by physical pat-down searches of persons in lieu of firearms and explosives detection equipment.

(iv) The observational capability required by § 73.55(h)(6) of this chapter as applied to a new protected area may be provided by a guard or watchman on patrol in lieu of closed circuit television.

(v) For the purpose of this general license, the licensee is exempt from §§ 73.55(h)(4)(iii)(A) and 73.55(h)(5) of this chapter.

(6) Review the reactor emergency plan, quality assurance program, training program, and radiation protection program to determine if their effectiveness is decreased and, if so, prepare the necessary changes and seek and obtain the necessary approvals.

(7) Maintain a copy of the Certificate of Compliance and documents referenced in the certificate for each cask model used for storage of spent fuel, until use of the cask model is discontinued. The licensee shall comply with the terms and conditions of the certificate.

(8)(i) Accurately maintain the record provided by the cask supplier for each cask that shows, in addition to the information provided by the cask vendor, the following:

(A) The name and address of the cask vendor or lessor;

(B) The listing of spent fuel stored in the cask; and

(C) Any maintenance performed on the cask.

(ii) This record must include sufficient information to furnish documentary evidence that any testing and maintenance of the cask has been conducted under an NRC-approved quality assurance program.

(iii) In the event that a cask is sold, leased, loaned, or otherwise transferred to another registered user, this record must also be transferred to and must be accurately maintained by the new registered user. This record must be maintained by the current cask user during the period that the cask is used for storage of spent fuel and retained by the last user until decommissioning of the cask is complete.

(9) Conduct activities related to storage of spent fuel under this general license only in accordance with written procedures.

(10) Make records and casks available to the Commission for inspection.

§ 72.214 List of approved spent fuel storage casks.

The following casks are approved for storage of spent fuel under the conditions specified in their Certificates of Compliance.

Certificate Number: 1000
SAR Submitted by: General Nuclear Systems, Inc.
SAR Title: Topical Safety Analysis Report for the Castor V/21 Cask Independent Spent Fuel Storage Installation (Dry Storage)
Docket Number: 72-1000
Certification Expiration Date: August 17, 2010
Model Number: CASTOR V/21

Certificate Number: 1001
SAR Submitted by: Westinghouse Electric Corporation
SAR Title: Topical Safety Analysis Report for the Westinghouse MC-10 Cask for an Independent Spent Fuel Storage Installation (Dry Storage)
Docket Number: 72-1001
Certification Expiration Date: August 17, 2010
Model Number: MC-10

Certificate Number: 1002
SAR Submitted by: Nuclear Assurance Corporation
SAR Title: Topical Safety Analysis Report for the NAC Storage/Transport Cask for Use at an Independent Spent Fuel Storage Installation
Docket Number: 72-1002
Certification Expiration Date: August 17, 2010
Model Number: NAC S/T

Certificate Number: 1003
SAR Submitted by: Nuclear Assurance Corporation
SAR Title: Topical Safety Analysis Report for the NAC Storage/Transport Cask Containing Consolidated Fuel for Use at an Independent Spent Fuel Storage Installation
Docket Number: 72-1003
Certification Expiration Date: August 17, 2010
Model Number: NAC-C28 S/T

§ 72.216 Reports.

(a) The general licensee shall make an initial report under § 50.72(b)(2)(vii) of this chapter of any:

(1) Defect discovered in any spent fuel storage cask structure, system, or component which is important to safety; or

(2) Instance in which there is a significant reduction in the effectiveness of any spent fuel storage cask confinement system during use.

(b) A written report, including a description of the means employed to repair any defects or damage and prevent recurrence, must be submitted using instructions in § 72.4 within 30 days of the report submitted in paragraph (a) of this section. A copy of the written report must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office shown in appendix D to part 20 of this chapter.

§ 72.218 Termination of licenses.

(a) The notification regarding the program for the management of spent fuel at the reactor required by § 50.54(bb) of this chapter must include a plan for removal of the spent fuel stored under this general license from the reactor site. The plan must show how the spent fuel will be managed before starting to decommission systems and components needed for moving, unloading, and shipping this spent fuel.

(b) An application for termination of the reactor operating license submitted under § 50.82 of this chapter must contain a description of how the spent fuel stored under this general license will be removed from the reactor site.

(c) The reactor licensee shall send a copy of submittals under § 72.218(a) and (b) to the administrator of the appropriate Nuclear Regulatory Commission regional office shown in appendix D to part 20 of this chapter.

§ 72.220 Violations.

This general license is subject to the provisions of § 72.84 for violation of the regulations under this part.

Subpart L—Approval of Spent Fuel Storage Casks

SOURCE: 55 FR 29193, July 18, 1990, unless otherwise noted.

§ 72.230 Procedures for spent fuel storage cask submittals.

(a) An application for approval of a spent fuel storage cask design must be submitted in accordance with the instructions contained in § 72.4. A safety analysis report describing the proposed cask design and how the cask should be used to store spent fuel safely must be included with the application.

(b) Casks that have been certified for transportation of spent fuel under part 71 of this chapter may be approved for storage of spent fuel under this subpart. An application must be submitted in accordance with the instructions contained in § 72.4. A copy of the Certificate of Compliance issued for the cask under part 71 of this chapter, and drawings and other documents referenced in the certificate, must be included with the application. A safety analysis report showing that the cask is suitable for storage of spent fuel for a period of at least 20 years must also be included.

(c) *Public inspection.* An application for the approval of a cask for storage of spent fuel may be made available for public inspection under § 72.20.

(d) *Fees.* Fees for reviews and evaluations related to issuance of a spent fuel storage cask Certificate of Compliance and inspections related to storage cask fabrication are those shown in § 170.31 of this chapter.

§ 72.232 Inspection and tests.

(a) The applicant shall permit, and make provisions for, the Commission to inspect the premises and facilities at which a spent fuel storage cask is fabricated and tested.

(b) The applicant shall perform, and make provisions that permit the Commission to perform, tests that the Commission deems necessary or appropriate for the administration of the regulations in this part.

(c) The applicant shall submit a notification under § 72.4 at least 45 days prior to starting fabrication of the first spent fuel storage cask under a Certificate of Compliance.

§ 72.234 Conditions of approval.

(a) Design, fabrication, testing, and maintenance of a spent fuel storage cask must comply with the requirements in § 72.236.

(b) Design, fabrication, testing, and maintenance of spent fuel storage casks must be conducted under a quality assurance program that meets the requirements of subpart G of this part.

(c) Fabrication of casks under the Certificate of Compliance must not start prior to receipt of the Certificate of Compliance for the cask model.

(d)(1) The cask vendor shall ensure that a record is established and maintained for each cask fabricated under the NRC Certificate of Compliance.

(2) This record must include:

(i) The NRC Certificate of Compliance number;

(ii) The cask model number;

(iii) The cask identification number;

(iv) Date fabrication was started;

(v) Date fabrication was completed;

(vi) Certification that the cask was designed, fabricated, tested, and repaired in accordance with a quality assurance program accepted by NRC;

(vii) Certification that inspections required by § 72.236(j) were performed and found satisfactory; and

(viii) The name and address of the cask user.

(3) The original of this record must be supplied to the cask user. A current copy of a composite record of all casks manufactured under a Certificate of Compliance, showing the information in paragraph (d)(2) of this section must be initiated and maintained by the cask vendor for each model cask. If the cask vendor permanently ceases production of casks under a Certificate of Compliance, this composite record must be sent to the Commission using instructions in § 72.4.

(e) The composite record required by paragraph (d) of this section must be available to the Commission for inspection.

(f) The cask vendor shall ensure that written procedures and appropriate tests are established prior to use of the casks. A copy of these procedures and tests must be provided to each cask user.

§ 72.236 Specific requirements for spent fuel storage cask approval.

(a) Specification must be provided for the spent fuel to be stored in the cask, such as, but not limited to, type of spent fuel (i.e., BWR, PWR, both), maximum allowable enrichment of the fuel prior to any irradiation, burn-up (i.e., megawatt-days/MTU), minimum acceptable cooling time of the spent fuel prior to storage in the cask, maximum heat designed to be dissipated, maximum spent fuel loading limit, condition of the spent fuel (i.e., intact assembly or consolidated fuel rods), the inerting atmosphere requirements.

(b) Design bases and design criteria must be provided for structures, systems, and components important to safety.

(c) The cask must be designed and fabricated so that the spent fuel is maintained in a subcritical condition under credible conditions.

(d) Radiation shielding and confinement features must be provided sufficient to meet the requirements in §§ 72.104 and 72.106.

(e) The cask must be designed to provide redundant sealing of confinement systems.

(f) The cask must be designed to provide adequate heat removal capacity without active cooling systems.

(g) The cask must be designed to store the spent fuel safely for a minimum of 20 years and permit maintenance as required.

(h) The cask must be compatible with wet or dry spent fuel loading and unloading facilities.

(i) The cask must be designed to facilitate decontamination to the extent practicable.

(j) The cask must be inspected to ascertain that there are no cracks, pinholes, uncontrolled voids, or other defects that could significantly reduce its confinement effectiveness.

(k) The cask must be conspicuously and durably marked with:

(1) A model number;

(2) A unique identification number; and

(3) An empty weight.

(l) The cask and its systems important to safety must be evaluated, by appropriate tests or by other means acceptable to the Commission, to demonstrate that they will reasonably maintain confinement of radioactive material under normal, off-normal, and credible accident conditions.

(m) To the extent practicable in the design of storage casks, consideration should be given to compatibility with removal of the stored spent fuel from a reactor site, transportation, and ultimate disposition by the Department of Energy.

§ 72.238 Issuance of an NRC Certificate of Compliance.

A Certificate of Compliance for a cask model will be issued by NRC on a finding that the requirements in § 72.236 (a) through (i) are met.

§ 72.240 Conditions for spent fuel storage cask reapproval.

(a) The holder of a cask Certificate of Compliance, a user of a cask approved by NRC, or the representative of a cask user must apply for a cask model reapproval.

(b) The application for reapproval of a cask model must be submitted not less than 30 days prior to the expiration date of the Certificate of Compliance. When the applicant has submitted a timely application for reapproval, the existing Certificate of Compliance will not expire until the application for reapproval has been finally determined by the Commission. The application must be accompanied by a safety analysis report (SAR). The new SAR may reference the SAR originally submitted for the cask model approval.

(c) A cask model will be reapproved if conditions in § 72.238 are met, and the application includes a demonstration that the storage of spent fuel has not, in fact, significantly adversely affected structures, systems, and components important to safety.

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AUTHORITY: Secs. 53, 161, 68 Stat. 930, 948, as amended, sec. 147, 94 Stat. 780 (42 U.S.C. 2073, 2167, 2201); sec. 201, as amended, 204, 88 Stat. 1242, as amended, 1245 (42 U.S.C. 5841, 5844).

Section 73.1 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 73.37(f) is also issued under sec. 301, Pub. L. 96-295, 94 Stat. 789 (42 U.S.C. 5841 note). Section 73.57 is issued under sec. 606, Pub. L. 99-399, 100 Stat. 876 (42 U.S.C. 2169).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 73.21, 73.37(g), and 73.55 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, and 73.67 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 73.20(c)(1), 73.24(b)(1), 73.26 (b)(3), (h)(6), and (k)(4), 73.27 (a) and (b), 73.37(f), 73.40 (b) and (d), 73.46 (g)(6) and (h)(2), 73.50 (g)(2), (3)(iii)(B), and (h), 73.55 (h)(2) and (4)(iii)(B), 73.57, 73.70, 73.71, and 73.72 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 38 FR 35430, Dec. 28, 1973, unless otherwise noted.

GENERAL PROVISIONS

§ 73.1 Purpose and scope.

(a) *Purpose.* This part prescribes requirements for the establishment and maintenance of a physical protection system which will have capabilities for the protection of special nuclear material at fixed sites and in transit and of plants in which special nuclear material is used. The following design basis threats, where referenced in ensuing sections of this part, shall be used to design safeguards systems to protect against acts of radiological sabotage and to prevent the theft of special nuclear material:

(1) *Radiological sabotage.* (i) A determined violent external assault, attack by stealth, or deceptive actions, of several persons with the following attributes, assistance and equipment: (A) Well-trained (including military training and skills) and dedicated individuals, (B) inside assistance which may include a knowledgeable individual who attempts to participate in a passive role (e.g., provide information), an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), or both, (C) suitable weapons, up to and including hand-held automatic weapons, equipped with silencers and having effective long range accuracy, (D) hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safeguards system, and

(ii) An internal threat of an insider, including an employee (in any position).

(2) Theft or diversion of formula quantities of strategic special nuclear material.

(i) A determined, violent, external assault, attack by stealth, or deceptive actions by a small group with the following attributes, assistance, and equipment:

(A) Well-trained (including military training and skills) and dedicated individuals;

(B) Inside assistance that may include a knowledgeable individual who attempts to participate in a passive role (e.g., provide information), an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), or both;

(C) Suitable weapons, up to and including hand-held automatic weapons, equipped with silencers and having effective long-range accuracy;

(D) Hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safe-guards system;

(E) Land vehicles used for transporting personnel and their hand-carried equipment; and

(F) the ability to operate as two or more teams.

(ii) An individual, including an employee (in any position), and

(iii) A conspiracy between individuals in any position who may have: (A) Access to and detailed knowledge of nuclear power plants or the facilities referred to in § 73.20(a), or (B) items that could facilitate theft of special nuclear material (e.g., small tools, substitute material, false documents, etc.), or both.

(b) *Scope.* (1) This part prescribes requirements for:

(i) The physical protection of production and utilization facilities licensed pursuant to part 50 of this chapter,

(ii) The physical protection of plants in which activities licensed pursuant to part 70 of this chapter are conducted, and

(iii) The physical protection of special nuclear material by any person who, pursuant to the regulations in part 61 or 70 of this chapter, possesses or uses at any site or contiguous sites subject to the control by the licensee, formula quantities of strategic special nuclear material or special nuclear material of moderate strategic significance or special nuclear material of low strategic significance.

(2) This part prescribes requirements for the physical protection of special nuclear material in transportation by any person who is licensed pursuant to the regulations in parts 70 and 110 of this chapter who imports, exports, transports, delivers to a carrier for transport in a single shipment, or takes delivery of a single shipment free on board (F.O.B.) where it is delivered to a carrier, formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance or special nuclear material of low strategic significance.

(3) This part also applies to shipments by air of special nuclear material in quantities exceeding: (i) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (ii) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope).

(4) Special nuclear material subject to this part may also be protected pursuant to security procedures prescribed by the Commission or another Government agency for the protection of classified materials. The provisions and requirements of this part are in addition to, and not in substitution for, any such security procedures. Compliance with the requirements of this part does not relieve any licensee from any requirement or obligation to protect special nuclear material pursuant to security procedures prescribed by the Commission or other Government agency for the protection of classified materials.

(5) This part also applies to the shipment of irradiated reactor fuel in quantities that in a single shipment both exceed 100 grams in net weight of irradiated fuel, exclusive of cladding or other structural or packaging material, and have a total radiation dose in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

(6) This part prescribes requirements for the physical protection of spent fuel stored in either an independent spent fuel storage installation (ISFSI) or a monitored retrievable storage installation (MRS) licensed under part 72 of this chapter.

(7) This part prescribes requirements for the protection of Safeguards Information in the hands of any person, whether or not a licensee of the Commission, who produces, receives, or acquires Safeguards Information.

(8) This part prescribes requirements for advance notice of export and import shipments of special nuclear material, including irradiated reactor fuel.

[44 FR 68186, Nov. 28, 1979, as amended at 45 FR 67645, Oct. 14, 1980; 45 FR 80271, Dec. 4, 1980; 46 FR 51724, Oct. 22, 1981; 47 FR 57482, Dec. 27, 1982; 52 FR 9653, Mar

8, 1987; 53 FR 31683, Aug. 19, 1988; 53 FR 45451, Nov. 10, 1988]

§73.2 Definitions.

As used in this part:

(a) Terms defined in parts 50 and 70 of this chapter have the same meaning when used in this part.

Appropriate Nuclear Regulatory Commission Regional Office listed in ppendix A means:

(1) For domestic shipments—the Regional Office within whose region the icensee who is responsible for the physical protection arrangements of he shipment is located.

(2) For export shipments—the Regional Office within whose region the icensee who is responsible for the physical protection arrangements of he shipment is located, and the Regional Office for the region in which he last point of exit of the shipment rom the U.S. is located.

(3) For import shipments—the Regional Office within whose region the icensee who is responsible for the physical protection arrangements of he shipment is located, and the Regional Office for the region in which he first point of entry of the shipment into the U.S. is located.

Armed escort means an armed person, not necessarily uniformed, whose primary duty is to accompany shipments of special nuclear material or the protection of such shipments gainst theft or radiological sabotage.

Armed response personnel means persons, not necessarily uniformed, whose primary duty in the event of attempted theft of special nuclear material or radiological sabotage shall be to respond, armed and equipped, to prevent or delay such actions.

Authorized individual means any individual, including an employee, a student, a consultant, or an agent of a licensee who has been designated in writing by a licensee to have responsibility for surveillance of or control over special nuclear material or to have unescorted access to areas where special nuclear material is used or stored.

Bullet/resisting means protection gainst complete penetration, passage of fragments of projectiles, and spalling (fragmentation) of the protective material that could cause injury to a person standing directly behind the bullet-resisting barrier.

Continuous visual surveillance means unobstructed view at all times of a shipment of special nuclear material, and of all access to a temporary storage area or cargo compartment containing the shipment.

Controlled access area means any temporarily or permanently established area which is clearly demarcated, access to which is controlled and which affords isolation of the material or persons within it.

Deceit means methods used to attempt to gain unauthorized access, introduce unauthorized materials, or remove strategic special nuclear materials, where the attempt involves falsification to present the appearance of authorized access.

DOE and *Department of Energy* means the Department of Energy established by the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565, 42 U.S.C. 7101 *et seq.*), to the extent that the Department, or its duly authorized representatives, exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers and components and transfered to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to sections 104(b), (c) and (d) of the Energy Reorganization Act of 1974 (Pub. L. 93-438, 88 Stat. 1233 at 1237, 42 U.S.C. 5814) and retransferred to the Secretary of Energy pursuant to section 301(a) of the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565 at 577-578, 42 U.S.C. 7151).

Force means violent methods used by an adversary to attempt to steal strategic special nuclear material or to sabotage a nuclear facility or violent methods used by response personnel to protect against such adversary actions.

Formula quantity means strategic special nuclear material in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium).

Guard means a uniformed individual armed with a firearm whose primary duty is the protection of special nuclear material against theft, the protection of a plant against radiological sabotage, or both.

Incendiary device means any self-contained device intended to create an intense fire that can damage normally flame-resistant or retardant materials.

Intrusion alarm means a tamper indicating electrical, electromechanical, electrooptical, electronic or similar device which will detect intrusion by an individual into a building, protected area, vital area, or material access area, and alert guards or watchmen by means of actuated visible and audible signals.

Isolation zone means any area adjacent to a physical barrier, clear of all objects which could conceal or shield an individual.

Lock in the case of vaults or vault type rooms means a three-position, manipulation resistant, dial type, built-in combination lock or combination padlock and in the case of fences, walls, and buildings means an integral door lock or padlock which provides protection equivalent to a six-tumbler cylinder lock. *Lock* in the case of a vault or vault type room also means any manipulation resistant, electromechanical device which provides the same function as a built-in combination lock or combination padlock, which can be operated remotely or by the *reading* or insertion of information, which can be uniquely characterized, and which allows operation of the device. *Locked* means protected by an operable lock.

Material access area means any location which contains special nuclear material, within a vault or a building, the roof, walls, and floor of which each constitute a physical barrier.

Movement control center means an operations center which is remote from transport activity and which maintains periodic position information on the movement of strategic special nuclear material, receives reports of attempted attacks or thefts, provides a means for reporting these and other problems to appropriate agencies and can request and coordinate appropriate aid.

Need to know means a determination by a person having responsibility for protecting Safeguards Information that a proposed recipient's access to Safeguards Information is necessary in the performance of official, contractual, or licensee duties of employment.

Person means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, government agency other than the Commission or the Department of Energy (DOE), (except that the DOE shall be considered a person to the extent that its facilities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 and sections 104, 105, and 202 of the Uranium Mill Tailings Radiation Control Act of 1978), any state or political subdivision of a state, or any political subdivision of any government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

Physical barrier means:

(1) Fences constructed of No. 11 American wire gauge, or heavier wire fabric, topped by three strands or more of barbed wire or similar material on brackets angled inward or outward between 30° and 45° from the vertical, with an overall height of not less than eight feet, including the barbed topping;

(2) Building walls, ceilings and floors constructed of stone, brick, cinder block, concrete, steel or comparable materials (openings in which are secured by grates, doors, or covers of construction and fastening of sufficient strength such that the integrity of the wall is not lessened by any opening), or walls of similar construction, not part of a building, provided with a barbed topping described in paragraph (1) of this definition of a height of not less than 8 feet; or

(3) Any other physical obstruction constructed in a manner and of materials suitable for the purpose for which the obstruction is intended.

Protected area means an area encompassed by physical barriers and to which access is controlled.

Radiological sabotage means any deliberate act directed against a plant or transport in which an activity licensed pursuant to the regulations in this chapter is conducted, or against a component of such a plant or transport which could directly or indirectly endanger the public health and safety by exposure to radiation.

Safeguards Information means information not otherwise classified as National Security Information or Restricted Data which specifically identifies a licensee's or applicant's detailed, (1) security measures for the physical protection of special nuclear material, or (2) security measures for the physical protection and location of certain plant equipment vital to the safety of production or utilization facilities.

Security management means persons responsible for security at the policy and general management level.

Security Storage Container includes any of the following repositories: (1) For storage in a building located within a protected or controlled access area, a steel filing cabinet equipped with a steel locking bar and a three position, changeable combination, GSA approved padlock; (2) A security filing cabinet that bears a Test Certification Label on the side of the locking drawer, or interior plate, and is marked, *General Services Administration Approved Security Container* on the exterior of the top drawer or door; (3) A bank safe-deposit box; and (4) Other repositories which in the judgement of the NRC, would provide comparable physical protection.

Security supervision means persons, not necessarily uniformed or armed, whose primary duties are supervision and direction of security at the day-to-day operating level.

Special nuclear material of low strategic significance means:

(1) Less than an amount of strategic special nuclear material of moderate strategic significance, as defined in paragraph (1) of the definition of strategic nuclear material of moderate strategic significance set out in this section, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = grams contained U-235 + grams plutonium + grams U-233, or

(2) Less than 10,000 grams but more than 1000 grams of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope), or

(3) 10,000 grams or more of uranium-235 contained in uranium enriched above natural but less than 10 percent in the U-235 isotope.

Special nuclear material of moderate strategic significance means:

(1) Less than a formula quantity of strategic special nuclear material but more than 1000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or more than 500 grams of uranium-233 or plutonium or in a combined quantity of more than 1000 grams when computed by the equation, grams = (grams contained U-235) + 2 (grams U-233 + grams plutonium), or

(2) 10,000 grams or more of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope).

Stealth means methods used to attempt to gain unauthorized access, introduce unauthorized materials, or remove strategic special nuclear material, where the fact of such attempt is concealed or an attempt is made to conceal it.

Strategic special nuclear material means uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium.

Tactical Response Team means the primary response force for each shift which can be identified by a distinctive item of uniform, armed with specified weapons, and whose other duties permit immediate response.

Transport means any land, sea, or air conveyance or modules for these conveyances such as rail cars or standardized cargo containers.

(ii) *Undergoing processing* means performing active operations on material such as chemical transformation, physical transformation, or transit between such operations, to be differentiated from storage or packaging for shipment.

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Vault means a windowless enclosure with walls, floor, roof and door(s) designed and constructed to delay penetration from forced entry.

Vault-type room means a room with one or more doors, all capable of being locked, protected by an intrusion alarm which creates an alarm upon the entry of a person anywhere into the room and upon exit from the room or upon movement of an individual within the room.

Vital area means any area which contains vital equipment.

Vital equipment means any equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital.

Watchman means an individual, not necessarily uniformed or armed with a firearm, who provides protection for a plant and the special nuclear material therein in the course of performing other duties.

[38 FR 35430, Dec. 28, 1973, as amended at 39 FR 2352, Jan. 21, 1974; 40 FR 52841, Nov. 13, 1975; 42 FR 10838, Feb. 24, 1977; 43 FR 37425, Aug. 23, 1978; 44 FR 43282, July 24, 1979; 44 FR 68187, Nov. 28, 1979; 45 FR 14201, Mar. 5, 1980; 46 FR 51724, Oct. 22, 1981; 53 FR 45451, Nov. 10, 1988; 55 FR 51401, Dec. 14, 1990]

§ 73.3 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretations of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized as binding upon the Commission.

§ 73.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part should be addressed to the Director of Nuclear Material Safety and Safeguards or the Director of Nuclear Reactor Regulation, as appropriate, U.S Nuclear Regulatory Commission, Washington, DC 20555, or may be delivered in person at the Commission's offices at 2120 L Street NW, Washington, DC, or at 11555 Rockville Pike, Rockville, MD.

[53 FR 6139, Mar. 1, 1988, as amended at 53 FR 43422, Oct. 27, 1988]

§ 73.5 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

§ 73.6 Exemptions for certain quantities and kinds of special nuclear material.

A licensee is exempt from the requirements of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.70 and 73.72 with respect to the following special nuclear material:

(a) Uranium-235 contained in uranium enriched to less than 20 percent in the U-235 isotope:

(b) Special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding; and

(c) Special nuclear material in a quantity not exceeding 350 grams of uranium-235, uranium-233, plutonium, or a combination thereof, possessed in any analytical, research, quality control, metallurgical or electronic laboratory.

(d) Special nuclear material that is being transported by the United States Department of Energy transport system.

(e) Special nuclear material at nonpower reactors.

Licensees subject to § 73.60 are not exempted from §§ 73.70 and 73.72, and licensees subject to § 73.67(e) are not exempted from § 73.72 of this part.

[40 FR 52841, Nov. 13, 1975, as amended at 44 FR 68187, Nov. 28, 1979]

§ 73.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0002.

(b) The approved information collection requirements contained in this part appear in §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, 73.67, 73.70, 73.71, 73.72, and appendices B and C.

[49 FR 19628, May 9, 1984]

§ 73.20 General performance objective and requirements.

(a) In addition to any other requirements of this part, each licensee who is authorized to operate a fuel reprocessing plant pursuant to part 50 of this chapter; possesses or uses formula quantities of strategic special nuclear material at any site or contiguous sites subject to control by the licensee; is authorized to transport or deliver to a carrier for transportation pursuant to part 70 of this chapter formula quantities of strategic special nuclear material; takes delivery of formula quantities of strategic special nuclear material free on board (f.o.b.) the point at which it is delivered to a carrier for transportation; or imports or exports formula quantities of strategic special nuclear material, shall establish and maintain or make arrangements for a physical protection system which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security, and do not constitute an unreasonable risk to the public health and safety. The physical protection system shall be designed to protect against the design basis threats of theft or diversion of strategic special nuclear material and radiological sabotage as stated in § 73.1(a).

(b) To achieve the general performance objective of paragraph (a) of this section a licensee shall establish and maintain, or arrange for, a physical protection system that:

(1) Provides the performance capabilities described in § 73.25 for in-transit protection or in § 73.45 for fixed site protection unless otherwise authorized by the Commission;

(2) Is designed with sufficient redundancy and diversity to assure maintenance of the capabilities described in §§ 73.25, 73.45; and

(3) Includes a testing and maintenance program to assure control over all activities and devices affecting the effectiveness, reliability, and availability of the physical protection system, including a demonstration that any defects of such activities and devices will be promptly detected and corrected for the total period of time they are required as a part of the physical protection system.

(c) Each licensee subject to the requirements of paragraphs (a) and (b) of this section shall:

(1) Within 150 days after the effective date of these amendments, submit a revised fixed site safeguards physical protection plan and, if appropriate, a revised safeguards transportation protection plan describing how the licensee will comply with the requirements of paragraph (a) of this section; and

(2) Within 360 days after the effective date of these amendments or 90 days after the plan submitted pursuant to paragraph (c)(1) of this section is approved, whichever is later, implement the approved plan except for activities specifically identified by the licensee which involve new construction, significant physical modification of existing structures or major equipment installation, for which 540 days after the effective date of these amendments or 180 days after the plan(s) is approved, whichever is later, will be allowed.

[44 FR 68188, Nov. 28, 1979]

§ 73.21 Requirements for the protection of safeguards information.

(a) *General performance requirement.* Each licensee who (1) possesses a formula quantity of strategic special nuclear material, or (2) is authorized to operate a nuclear power reactor, or

(3) transports, or delivers to a carrier for transport, a formula quantity of strategic special nuclear material or more than 100 grams of irradiated reactor fuel, and each person who produces, receives, or acquires Safeguards Information shall ensure that Safeguards Information is protected against unauthorized disclosure. To meet this general performance requirement, licensees and persons subject to this section shall establish and maintain an information protection system that includes the measures specified in paragraphs (b) through (i) of this section. Information protection procedures employed by State and local police forces are deemed to meet these requirements.

(b) *Information to be protected.* The specific types of information, documents, and reports that shall be protected are as follows:

(1) *Physical protection at fixed sites.* Information not otherwise classified as Restricted Data or National Security Information relating to the protection of facilities that possess formula quantities of strategic special nuclear material, and power reactors. Specifically:

(i) The composite physical security plan for the nuclear facility or site.

(ii) Site specific drawings, diagrams, sketches, or maps that substantially represent the final design features of the physical protection system.

(iii) Details of alarm system layouts showing location of intrusion detection devices, alarm assessment equipment, alarm system wiring, emergency power sources, and duress alarms.

(iv) Written physical security orders and procedures for members of the security organization, duress codes, and patrol schedules.

(v) Details of the on-site and off-site communications systems that are used for security purposes.

(vi) Lock combinations and mechanical key design.

(vii) Documents and other matter that contain lists or locations of certain safety-related equipment explicity identified in the documents as vital for purposes of physical protection, as contained in physical security plans, safeguards contingency plans, or plant specific safeguards analyses for production or utilization facilities.

(viii) The composite safeguards contingency plan for the facility or site.

(ix) Those portions of the facility guard qualification and training plan which disclose features of the physical security system or response procedures.

(x) Response plans to specific threats detailing size, disposition, response times, and armament of responding forces.

(xi) Size, armament, and disposition of on-site reserve forces.

(xii) Size, identity, armament, and arrival times of off-site forces committed to respond to safeguards emergencies.

(2) *Physical protection in transit.* Information not otherwise classified as Restricted Data or National Security Information relative to the protection of shipments of formula quantities of strategic special nuclear material and spent fuel. Specifically:

(i) The composite transportation physical security plan.

(ii) Schedules and itineraries for specific shipments. (Routes and quantities for shipments of spent fuel are not withheld from public disclosure. Schedules for spent fuel shipments may be released 10 days after the last shipment of a current series.)

(iii) Details of vehicle immobilization features, intrusion alarm devices, and communication systems.

(iv) Arrangements with and capabilities of local police response forces, and locations of safe havens.

(v) Details regarding limitations of radio-telephone communications.

(vi) Procedures for response to safeguards emergencies.

(3) *Inspections, audits and evaluations.* Information not otherwise classified as National Security Information or Restricted Data relating to safeguards inspections and reports. Specifically:

(i) Portions of safeguards inspection reports, evaluations, audits, or investigations that contain details of a licensee's or applicant's physical security system or that disclose uncorrected defects, weaknesses, or vulnerabilities in the system. Information regarding defects, weaknesses or vulnerabilities may be released after corrections have been made. Reports of investigations may be released after the investigation has been completed, unless withheld pursuant to other authorities, e.g., the Freedom of Information Act (5 U.S.C. 552).

(4) *Correspondence.* Portions of correspondence insofar as they contain Safeguards Information specifically defined in paragraphs (b)(1) through (b)(3) of this paragraph.

(c) *Access to Safeguards Information.* (1) Except as the Commission may otherwise authorize, no person may have access to Safeguards Information unless the person has an established "need to know" for the information and is:

(i) An employee, agent, or contractor of an applicant, a licensee, the Commission, or the United States Government. However, an individual to be authorized access to Safeguards Information by a nuclear power reactor applicant or licensee must undergo a Federal Bureau of Investigation criminal history check to the extent required by 10 CFR 73.57;

(ii) A member of a duly authorized commmittee of the Congress;

(iii) The Governor of a State or designated representatives;

(iv) A representative of the International Atomic Energy Agency (IAEA) engaged in activities associated with the U.S./IAEA Safeguards Agreement who has been certified by the NRC;

(v) A member of a state or local law enforcement authority that is responsible for responding to requests for assistance during safeguards emergencies; or

(vi) An individual to whom disclosure is ordered pursuant to § 2.744(e) of this chapter.

(2) Except as the Commission may otherwise authorize, no person may disclose Safeguards Information to any other person except as set forth in paragraph (c)(1) of this section.

(d) *Protection while in use or storage.* (1) While in use, matter containing Safeguards Information shall be under the control of an authorized individual.

(2) While unattended, Safeguards Information shall be stored in a locked security storage container. Knowledge of lock combinations protecting Safeguards Information shall be limited to a minimum number of personnel for operating purposes who have a "need to know" and are otherwise authorized access to Safeguards Information in accordance with the provisions of this section.

(e) *Preparation and marking of documents.* Each document or other matter that contains Safeguards Information as defined in paragraph (b) in this section shall be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information (portion marking is not required for the specific items of information set forth in paragraph § 73.21(b) other than guard qualification and training plans and correspondence to and from the NRC). Documents and other matter containing Safeguards Information in the hands of contractors and agents of licensees that were produced more than one year prior to the effective date of this amendment need not be marked unless they are removed from storage containers for use.

(f) *Reproduction and destruction of matter containing Safeguards Information.* (1) Safeguards Information may be reproduced to the minimum extent necessary consistent with need without permission of the originator.

(2) Documents or other matter containing Safeguards Information may be destroyed by any method that assures complete destruction of the Safeguards Information they contain.

(g) *External transmission of documents and material.* (1) Documents or other matter containing Safeguards Information, when transmitted outside an authorized place of use or storage, shall be packaged to preclude disclosure of the presence of protected information.

(2) Safeguards Information may be transported by messenger-courier, United States first class, registered, express, or certified mail, or by any individual authorized access pursuant to § 73.21(c).

(3) Except under emergency or extraordinary conditions, Safeguards Information shall be transmitted only by protected telecommunications circuits (including facsimile) approved by the

NRC. Physical security events required to be reported pursuant to § 73.71 are considered to be extraordinary conditions.

(h) *Use of automatic data processing (ADP) systems.* Safeguards Information may be processed or produced on an ADP system provided that the system is self-contained within the licensee's or his contractor's facility and requires the use of an entry code for access to stored information. Other systems may be used if approved for security by the NRC.

(i) *Removal from Safeguards Information category.* Documents originally containing Safeguards Information shall be removed from the Safeguards Information category whenever the information no longer meets the criteria contained in this section.

[46 FR 51724, Oct. 22, 1981, as amended at 54 FR 17704, Apr. 25, 1989]

§ 73.24 Prohibitions.

(a) Except as specifically approved by the Nuclear Regulatory Commission, no shipment of special nuclear material shall be made in passenger aircraft in excess of (1) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (2) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope).

(b) Unless otherwise approved by the Nuclear Regulatory Commission, no licensee may make shipments of special nuclear material in which individual shipments are less than a formula quantity, but the total quantity in shipments in transit at the same time could equal or exceed a formula quantity, unless either of the following conditions are met:

(1) The licensee shall confirm and log the arrival at the final destination of each individual shipment and retain the log for three years from the date of the last entry in the log. The licensee shall also schedule shipments to ensure that the total quantity for two or more shipments in transit at the same time does not equal or exceed the formula quantity, or

(2) Physical protection in accordance with the requirements of §§ 73.20, 73.25, and 73.26 is provided by the licensee for such shipments as appropriate so that the total quantity of special nuclear material in the remaining shipments not so protected, and in transit at the same time, does not equal or exceed a formula quantity.

[44 FR 68188, Nov. 28, 1979, as amended at 53 FR 19257, May 27, 1988]

PHYSICAL PROTECTION OF SPECIAL NUCLEAR MATERIAL IN TRANSIT

§ 73.25 Performance capabilities for physical protection of strategic special nuclear material in transit.

(a) To meet the general performance objective and requirements of § 73.20 an in-transit physical protection system shall include the performance capabilities described in paragraphs (b) through (d) of this section unless otherwise authorized by the Commission.

(b) Restrict access to and activity in the vicinity of transports and strategic special nuclear material. To achieve this capability the physical protection system shall:

(1) Minimize the vulnerability of the strategic special nuclear material by using the following subfunctions and procedures:

(i) Preplanning itineraries for the movement of strategic special nuclear material;

(ii) Periodically updating knowledge of route conditions for the movement of strategic special nuclear material;

(iii) Maintaining knowledge of the status and position of the strategic special nuclear material en route; and

(iv) Determining and communicating alternative itineraries en route as conditions warrant.

(2) Detect and delay any unauthorized attempt to gain access or introduce unauthorized materials by stealth or force into the vicinity of transports and strategic special nuclear material using the following subsystems and subfunctions:

(i) Controlled access areas to isolate strategic special nuclear material and transports to assure that unauthorized persons shall not have direct access to, and unauthorized materials shall not be introduced into the vicinity of, the transports and strategic special nuclear material, and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized penetration (or such attempts) of a controlled access area by persons, vehicles or materials so that the response will satisfy the general performance objective and requirements of § 73.20(a).

(3) Detect attempts to gain unauthorized access or introduce unauthorized materials into the vicinity of transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and access criteria for persons, materials and vehicles; and

(ii) Access controls and procedures to verify the identity of persons, materials and vehicles, to assess such identity against current authorization schedules and access criteria before permitting access, and to initiate response measures to deny unauthorized entries.

(c) Prevent or delay unauthorized entry or introduction of unauthorized materials into, and unauthorized removal of, strategic special nuclear material from transports. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized entry or introduce unauthorized materials into transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for access into transports for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and to permit transport entry only to those persons and materials specified by the current authorization schedules and entry criteria.

(2) Detect attempts to gain unauthorized entry or introduce unauthorized material into transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay access to strategic special nuclear material sufficient to permit the detection and response systems to function so as to satisfy the general performance objective and requirements of § 73.20(a);

(ii) Inspection and detection subsystems and procedures to detect unauthorized tampering with transports and cargo containers; and

(iii) Surveillance subsystems and procedures to detect, assess and communicate any unauthorized presence of persons or materials and any unauthorized attempt to penetrate the transport so that the response will satisfy the general performance objective and requirements of § 73.20(a).

(3) Prevent unauthorized removal of strategic special nuclear material from transports by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the persons authorized to remove and receive the material, the authorized times for such removal and receipt and authorized places for such removal and receipt.

(ii) Removal controls and procedures to establish activities for transferring cargo in emergency situations; and

(iii) Removal controls and procedures to permit removal of strategic special nuclear material only after verification of the identity of persons removing or receiving the strategic special nuclear material, and after verification of the identity and integrity of the strategic special nuclear material being removed from transports.

(4) Detect attempts to remove strategic special nuclear material from transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay unauthorized strategic special nuclear material removal attempts sufficient to assist detection and permit a response to satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to satisfy the general performance objective and requirements of § 73.20(a).

(d) Respond to safeguards contingencies and emergencies to assure that the two capabilities in paragraphs (b) and (c) of this section are achieved, and to engage and impede adversary forces until local law enforcement forces arrive. To achieve this capability, the physical protection system shall:

(1) Respond rapidly and effectively to safeguards contingencies and emergencies using the following subsystems and subfunctions:

(i) A security organization composed of trained and qualifed personnel, including armed escorts, one of whom is designated as escort commander, with procedures for command and control, to execute response functions.

(ii) Assessment procedures to assess the nature and extent of security related incidents.

(iii) A predetermined plan to respond to safeguards contingency events.

(iv) Equipment and procedures to enable responses to security related incidents sufficiently rapid and effective to achieve the predetermined objective of each action.

(v) Equipment, vehicle design features, and procedures to protect security organization personnel, including those at the movement control center, in their performance of assessment and response related functions.

(2) Transmit detection, assessment and other response related information using the following subsystems and subfunctions:

(i) Communications equipment and procedures to rapidly and accurately transmit security information among armed escorts.

(ii) Equipment and procedures for two-way communications between the escort commander and the movement control center to rapidly and accurately transmit assessment information and requests for assistance by local law enforcement forces, and to coordinate such assistance.

(iii) Communications equipment and procedures for the armed escorts and the movement control center personnel to notify local law enforcement forces of the need for assistance.

(3) Establish liaisons with local law enforcement authorities to arrange for assistance en route.

(4) Assure that a single adversary action cannot destroy the capability of armed escorts to notify the local law enforcement forces of the need for assistance.

[44 FR 68188, Nov. 28, 1979]

§ 73.26 Transportation physical protection systems, subsystems, components, and procedures.

(a) A transportation physical protection system established pursuant to the general performance objectives and requirements of § 73.20 and performance capability requirements of § 73.25 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (l) of this section. The Commission may require, depending on the individual transportation conditions or circumstances, alternate or additional measures deemed necessary to meet the general performance objectives and requirements of §73.20. The Commission also may authorize protection measures other than those required by this section if, in its opinion, the overall level of performance meets the general performance objectives and requirements of § 73.20 and the performance capability requirements of § 73.25.

(b) *Planning and scheduling.* (1) Shipments shall be scheduled to avoid regular patterns and preplanned to avoid areas of natural disaster or civil disorders, such as strikes or riots. Such shipments shall be planned in order to avoid storage times in excess of 24 hours and to assure that deliveries occur at a time when the receiver at the final delivery point is present to accept the shipment.

(2) Arrangements shall be made with law enforcement authorities along the route of shipments for their response to an emergency or a call for assistance.

(3) Security arrangements for each shipment shall be approved by the Nuclear Regulatory Commission prior to the time for the seven-day notice required by § 73.72. Information to be supplied to the Commission in addi-

tion to the general security plan information is as follows:

(i) Shipper, consignee, carriers, transfer points, modes of shipment,

(ii) Point where escorts will relinquish responsibility or will accept responsibility for the shipment,

(iii) Arrangements made for transfer of shipment security, and

(iv) Security arrangements at point where escorts accept responsibility for an import shipment.

(4) Hand-to-hand receipts shall be completed at origin and destination and at all points enroute where there is a transfer of custody.

(c) *Export/import shipments.* (1) A licensee who imports a formula quantity of strategic special nuclear material shall make arrangements to assure that the material will be protected in transit as follows:

(i) An individual designated by the licensee or his agent, or as specified by a contract of carriage, shall confirm the container count and examine locks and/or seals for evidence of tampering, at the first place in the United States at which the shipment is discharged from the arriving carrier.

(ii) The shipment must be protected at all times within the geographical limits of the United States as provided in this section and §§ 73.25 and 73.27. The licensee shall retain each record required by these sections for three years after the close of period for which the licensee possesses the special nuclear material under each license authorizing the licensee to ship this material, and superseded material for three years after each change.

(2) A licensee who exports a formula quantity of strategic special nuclear material shall comply with the requirements of this section and §§ 73.25 and 73.27, as applicable, up to the first point where the shipment is taken off the transport outside the United States. The licensee shall retain each record required by these sections for three years after the close of period for which the licensee possesses the special nuclear material under each license authorizing the licensee to export this material, and superseded material for three years after each change.

(d) *Security organization.* (1) The licensee or his agent shall establish a transportation security organization, including armed escorts, armed response personnel or guards, and a movement control center manned and equipped to monitor and control shipments, to communicate with local law enforcement authorities, and to respond to safeguards contingencies.

(2) At least one full time member of the security organization who has the authority to direct the physical protection activities of the security organization shall be on duty at the movement control center during the course of any shipment.

(3) The licensee or the licensee's agent shall establish, maintain, and follow a written management system to provide for the development, revision, implementation, and enforcement of transportation physical protection procedures. The licensee or the agent shall retain as a record the current management system for three years after the close of period for which the licensee possesses the special nuclear material under the license for which the system was developed and, if any portion of the system is superseded, retain the superseded material for three years after each change. The system shall include:

(i) Written security procedures which document the structure of the transportation security organization and which detail the duties of drivers and escorts and other individuals responsible for security; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security function.

(4) Neither the licensee nor the licensee's agent shall permit an individual to act as an escort or other security organization member unless the individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with appendix B, of this part, "General Criteria for Security Personnel." Upon the request of an authorized representative of the Commission, the licensee or the agent shall demonstrate the ability of the physical security personnel to carry out their assigned

duties and responsibilities. Armed escorts shall requalify in accordance with appendix B to this part at least every 12 months. Each requalification must be documented. The licensee or the agent shall retain documentation of the initial qualification for the term of employment and of each requalification as a record for three years from the date of the requalification.

(5) Armed escort and armed response force personnel armament shall include handguns, shotguns, and semiautomatic rifles, as described in appendix B to this part.

(e) *Contingency and Response Plans and Procedures.* (1) The licensee or the licensee's agent shall establish, maintain, and follow a written safeguards contingency plan for dealing with threats, thefts, and radiological sabotage related to strategic special nuclear material in transit subject to the provisions of this section. This safeguards contingency plan must be in accordance with the criteria in appendix C of this part, "Licensee Safeguards Contingency Plan." The licensee or the agent shall retain the contingency plan as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the plan is used and superseded material for three years after each change.

(2) Upon detection of abnormal presence or activity of persons or vehicles attempting to penetrate a moving convoy or persons attempting to gain access to a parked cargo vehicle or upon evidence or indication of penetration of the cargo vehicle the armed escorts or other armed response personnel shall:

(i) Determine whether or not a threat exists;

(ii) Assess the extent of the threat, if any;

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Making the necessary tactical moves to prevent or impede acts of radiological sabotage or theft of strategic special nuclear material, and

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(3) The licensee or his agent shall instruct every armed escort and all armed response personnel to prevent or impede acts of radiological sabotage or theft of strategic special material by using sufficient force to counter the force directed at him including the use of deadly force when armed escorts or armed response personnel have a reasonable belief that it is necessary in self-defense or in the defense of others.

(f) *Transfer and storage of strategic special nuclear material for domestic shipments.* (1) Strategic special nuclear material shall be placed in a protected area at transfer points if transfer is not immediate from one transport to another. Where a protected area is not available a controlled access area shall be established for the shipment. The transport may serve as a controlled access area.

(2) All transfers shall be protected by at least seven armed escorts or other armed personnel—one of whom shall serve as commander. At least five of the armed personnel (including the commander) shall be available to protect the shipment and at least three of the five shall keep the strategic special nuclear material under continuous surveillance while it is at the transfer point. The two remaining armed personnel shall take up positions at a remote monitoring location. The remote location may be a radio-equipped vehicle or a nearby place, apart from the shipment area, so that a single act cannot remove the capability of the personnel protecting the shipment for calling for assistance. Each of the seven armed escorts or other armed personnel shall be capable of maintaining communication with each other. The commander shall have the capability to communicate with the personnel at the remote location and with local law enforcement agencies for emergency assistance. In addition, the armed escort personnel at the remote location shall have the capability to communicate with the law enforcement agencies and with the shipment movement control center. The commander shall call the remote location at least every 30 minutes to report the status of the shipment. If the calls are not received within the prescribed time, the personnel in the remote location shall re-

quest assistance from the law enforcement authorities, notify the shipment movement control center and initiate the appropriate contingency plans. Armed escorts or other armed personnel shall observe the opening of the cargo compartment of the incoming transport and ensure that the shipment is complete by checking locks and seals. A shipment loaded onto or transferred to another transport shall be checked to assure complete loading or transfer. Continuous visual surveillance of the cargo compartment shall be maintained up to the time the transport departs from the terminal. The escorts shall observe the transport until it has departed and shall notify the licensee or his agent of the latest status immediately thereafter.

(g) *Access control subsystems and procedures.* (1) A numbered picture badge identification procedure shall be used to identify all individuals who will have custody of a shipment. The identification procedure shall require that the individual who has possession of the strategic special nuclear material shall have, in advance, identification picture badges of all individuals who are to assume custody for the shipment. The shipment shall be released only when the individual who has possession of strategic special nuclear material has assured positive identification of all of the persons assuming custody for the shipment by comparing the copies of the identification badges that have been received in advance to the identification badges carried by the individuals who will assume custody of the shipment.

(2) Access to protected areas, controlled access areas, transports, escort vehicles, aircraft, rail cars, and containers where strategic special nuclear material is located shall be limited to individuals who have been properly identified and have been authorized access to these areas.

(3) Strategic special nuclear material shall be shipped in containers that are protected by tamper-indicating seals. The containers also shall be locked if they are not in another locked container or transport. The outermost container or transport also shall be protected by tamper-indicating seals.

(h) *Test and maintenance programs.* The licensee or his agent shall establish, maintain and follow a test and maintenance program for communications equipment and other physical protection related devices and equipment used pursuant to this section which shall include the following:

(1) Tests and inspections shall be conducted during the installation, and construction of physical protection related subsystems and components to assure that they comply with their respective design criteria and performance specifications.

(2) Preoperational tests and inspections shall be conducted for physical protection related subsystems and components to demonstrate their effectiveness, availability, and reliability with respect to their respective design criteria and performance specifications.

(3) Operational tests and inspections shall be conducted for physical protection related subsystems and components to assure their maintenance in an operable and effective condition.

(4) Preventive maintenance programs shall be established for physical protection related subsystems and components to assure their continued maintenance in an operable and effective condition.

(5) All physical protection related subsystems and components shall be maintained in operable condition. Corrective action procedures and compensatory measures shall be developed and employed to assure that the effectiveness of the physical protection system is not reduced by any single failure or other contingencies affecting the operation of the physical protection related equipment or structures.

(6) The transportation security program shall be reviewed at least every 12 months or prior to each use, whichever is greater, by individuals independent of both security management and security supervision. Such a review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program, and an audit of commitments established for

response by local law enforcement authorities. The results of the review and the audit along with recommendations for improvements shall be documented, reported to the responsible organization management, and kept available for inspection for a period of five years.

(i) *Shipment by road.* (1) A detailed route plan shall be prepared which shows the routes to be taken, the refueling and rest stops, and the call-in times to the movement control center. All shipments shall be made on primary highways with minimum use of secondary roads. All shipments shall be made without intermediate stops except for refueling, rest or emergency stops.

(2) Cargo compartments of the trucks or trailers shall be locked and protected by tamper-indicating seals.

(3) The shipment shall be protected by one of the following methods:

(i) A specially designed cargo vehicle truck or trailer that reduces the vulnerability to theft. Design features of the truck or trailer shall permit immobilization of the truck or of the cargo-carrying portion of the vehicle and shall provide a deterrent to physical penetration of the cargo compartment. Two separate escort vehicles shall accompany the cargo vehicle. There shall be a total of seven armed escorts with at least two in the cargo vehicle. Escorts may also operate the cargo and escort vehicles.

(ii) An armored car cargo vehicle. Three separate escort vehicles shall accompany such a cargo vehicle. There shall be a total of seven armed escorts, with at least two in the cargo vehicle. Escorts may also operate the cargo and escort vehicles.

(4) All escort vehicles shall be bullet-resisting.

(5) Procedures shall be established to assure that no unauthorized persons or materials are on the cargo vehicle before strategic special nuclear material is loaded, or on the escort vehicles, immediately before the trip begins.

(6) Cargo and escort vehicles shall maintain continuous intraconvoy two-way communication. In addition at least two of the vehicles shall be equipped with radio telephones having the capability of communicating with the movement control center. A redundant means of communication shall also be available. Calls to the movement control center shall be made at least every half hour to convey the status and position of the shipment. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify the law enforcement authorities and the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of this part and initiate the appropriate contingency plan.

(7) At refueling, rest, or emergency stops at least seven armed escorts or other armed personnel shall be available to protect the shipment and at least three armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo compartment.

(8) Transfers to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(j) *Shipment by air.* (1) All shipments on commercial cargo aircraft shall be accompanied by two armed escorts who shall be able to converse in a common language with the captain of the aircraft.

(2) Transfers of these shipments shall be minimized and shall be conducted in accordance with paragraph (f) of this section. Such shipments shall be scheduled so that the strategic special nuclear material is loaded last and unloaded first.

(3) At scheduled stops, at least seven armed escorts or other armed personnel shall be available to protect the shipment and at least three armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo compartment.

(4) Export shipments shall be accompanied by two armed escorts from the last terminal in the United States until the shipment is unloaded at a foreign terminal and primary responsibility for physical protection is assumed by agents of the consignee. While on foreign soil, the escorts may surrender their weapons to legally constituted local authorities. After leaving the last terminal in the United

States the shipment shall be scheduled with no intermediate stops.

(5) Import shipments shall be accompanied by two armed escorts at all times within the geographical limits of the United States. These escorts shall provide physical protection for the shipment until relieved by verified agents of the U.S. consignee.

(6) Procedures shall be established to assure that no unauthorized persons or material are on the aircraft before strategic special nuclear material is loaded on board.

(7) Arrangements shall be made at all domestic airports to assure that the seven required armed escorts or other armed personnel are available and that the required security measures will be taken upon landing.

(8) Arrangements shall be made at the foreign terminal at which the shipment is to be unloaded to assure that security measures will be taken on arrival.

(k) *Shipment by rail.* (1) A shipment by rail shall be escorted by seven armed escorts in the shipment car or an escort car next to the shipment car of the train. At least three escorts shall keep the shipment car under continuous visual surveillance. Escorts shall detrain at stops when practicable and time permits to maintain the shipment cars under continuous visual surveillance and to check car or container locks and seals.

(2) Procedures shall be established to assure that no unauthorized persons or materials are on the shipment or escort car before strategic special nuclear material is loaded on board.

(3) Only containers weighing 5,000 lbs or more shall be shipped on open rail cars.

(4) A voice communication capability between the escorts and the movement control center shall be maintained. A redundant means of continuous communication also shall be available. Calls to the movement control center shall be made at least every half hour to convey the status and position of the shipment. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify the law enforcement authorities and the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of this part and initiate their contingency plan.

(5) Transfer to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(l) *Shipment by sea.* (1) Shipments shall be made only on container-ships. The strategic special nuclear material container(s) shall be loaded into exclusive use cargo containers conforming to American National Standards Institute (ANSI) Standard MH5.1—"Basic Requirements for Cargo Containers" (1971) or International Standards Organization (ISO) 1496, "General Cargo Containers" (1973) Locks and seals shall be inspected by the escorts whenever access is possible.

(2) All shipments shall be accompanied by two armed escorts who shall be able to converse in a common language with the captain of the ship.

(3) Minimum domestic ports of call shall be scheduled and there shall be no scheduled transfer to other vessels after the shipment leaves the last port in the United States. Transfer to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(4) At all ports of call the escorts shall ensure that the shipment is not removed. At least two armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo area where the container is stored up to the time the ship departs.

(5) Export shipments shall be accompanied by two armed escorts from the last port in the United States until the shipment is unloaded at a foreign terminal and prime responsibility for physical protection is assumed by agents of the consignee. While on foreign soil, the escorts may surrender their weapons to legally constituted local authorities.

(6) Import shipments shall be accompanied by two armed escorts at all times within the geographical limits of the United States. These escorts shall provide physical protection for the shipment until relieved by verified agents of the U.S. consignee.

(7) Ship-to-shore communications shall be available, and a ship-to-shore contact shall be made every six hours

to relay position information, and the status of the shipment.

(8) Arrangements shall be made at the foreign terminals at which the shipment is to be unloaded to assure that security measures will be taken upon arrival.

[44 FR 68190, Nov. 28, 1979, as amended at 46 FR 2025, Jan. 8, 1981; 53 FR 19257, May 27, 1988]

§ 73.27 Notification requirements.

(a)(1) A licensee who delivers formula quantities of strategic special nuclear material to a carrier for transport shall immediately notify the consignee by telephone, telegraph, or teletype, of the time of departure of the shipment, and shall notify or confirm with the consignee the method of transportation, including the names of carriers, and the estimated time of arrival of the shipment at its destination.

(2) In the case of a shipment (f.o.b.) the point where it is delivered to a carrier for transport, a licensee shall, before the shipment is delivered to the carrier, obtain written certification from the licensee who is to take delivery of the shipment at the f.o.b. point that the physical protection arrangements required by §§ 73.25 and 73.26 for licensed shipments have been made. When a contractor exempt from the requirements for a Commission license is the consignee of a shipment, the licensee shall, before the shipment is delivered to the carrier, obtain written certification from the contractor who is to take delivery of the shipment at the f.o.b. point that the physical protection arrangements required by the United States Department of Energy Order Nos. 5632.1 or 5632.2, as appropriate, have been made.

(3) A licensee who delivers formula quantities of strategic special nuclear material to a carrier for transport or releases such special nuclear material f.o.b. at the point where it is delivered to a carrier for transport shall also make arrangements with the consignee to be notified immediately by telephone and telegraph, teletype, or cable, of the arrival of the shipment at its destination or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination.

(b) Each licensee who receives a shipment of formula quantities of strategic special nuclear material shall immediately notify by telephone and telegraph or teletype, the person who delivered the material to a carrier for transport and the Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of the arrival of the shipment at its destination. When a United States Department of Energy license-exempt contractor is the consignee, the licensee who is the consignor shall notify by telephone and telegraph, or teletype, the Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of the arrival of the shipment at its destination immediately upon being notified of the receipt of the shipment by the license-exempt contractor as arranged pursuant to paragraph (a)(3) of this section. In the event such a shipment fails to arrive at its destination at the estimated time, or in the case of an export shipment, the licensee who exported the shipment, shall immediately notify by telephone and telegraph or teletype, the Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of this part, and the licensee or other person who delivered the material to a carrier for transport. The licensee who made the physical protection arrangements shall also immediately notify by telephone and telegraph, or teletype, the Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of the action being taken to trace the shipment.

(c) Each licensee who makes arrangements for physical protection of a shipment of formula quantities of strategic special nuclear material as required by §§ 73.25 and 73.26 shall immediately conduct a trace investigation of any shipment that is lost or unaccounted for after the estimated arrival time and file a report with the Commission as specified in § 73.71.

[44 FR 68192, Nov. 28, 1979]

§ 73.37 Requirements for physical protection of irradiated reactor fuel in transit.

(a) *Performance objectives.* (1) Each licensee who transports, or delivers to a carrier for transport, in a single shipment, a quantity of irradiated reactor fuel in excess of 100 grams in net weight of irradiated fuel, exclusive of cladding or other structural or packaging material, which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding, shall establish and maintain, or make arrangements for, and assure the proper implementation of, a physical protection system for shipments of such material that will achieve the following objectives:

(i) Minimize the possibilities for radiological sabotage of spent fuel shipments, especially within heavily populated areas; and

(ii) Facilitate the location and recovery of spent fuel shipments that may have come under the control of unauthorized persons.

(2) To achieve these objectives, the physical protection shall:

(i) Provide for early detection and assessment of attempts to gain unauthorized access to, or control over, spent fuel shipments;

(ii) Provide for notification to the appropriate response forces of any spent fuel shipment sabotage attempts; and

(iii) Impede attempts at radiological sabotage or spent fuel shipments within heavily populated areas, or attempts to illicitly move such shipments into heavily populated areas, until response forces arrive.

(b) *General requirements.* To achieve the performance objectives of paragraph (a) of this section, a physical protection system established and maintained, or arranged for, by the licensee shall:

(1) Provide for notification of the Nuclear Regulatory Commission in advance of each shipment, in accordance with § 73.72 of this part.

(2) Include and retain a copy of current procedures for coping with circumstances that threaten deliberate damage to a spent fuel shipment and with other safeguards emergencies as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the procedures were developed and, if any portion of the procedures is superseded, retain the superseded material for three years after each change.

(3) Include instructions for each escort and retain a copy of the current instructions as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the activity that requires the instruction and retain any superseded material for three years after each change. The instructions must direct that, upon detection of the abnormal presence of unauthorized persons, vehicles, or vessels in the vicinity of a spent fuel shipment or upon detection of a deliberately induced situation that has the potential for damaging a spent fuel shipment, the escort will:

(i) Determine whether or not a threat exists;

(ii) Assess the extent of the threat, if any;

(iii) Inform local law enforcement agencies of the threat and request assistance; and

(iv) Implement the procedures developed in accordance with paragraph (b)(2) of this section.

(4) Include a communications center at a designated location, which will be staffed continuously by at least one individual who will monitor the progress of the spent fuel shipment and will notify the appropriate agencies in the event a safeguards emergency should arise.

(5) Provide for maintenance of a written log by the escorts and communications center personnel for each spent fuel shipment, which will include information describing the shipment and significant events that occur during the shipment, and will be available for review by authorized NRC personnel for a period of at least three years following completion of the shipment.

(6) Provide that arrangements have been made with local law enforcement agencies along the routes of road and rail shipments, and at U.S. ports where vessels carrying spent fuel ship-

ments are docked, for their response to an emergency or a call for assistance.

(7) Provide for advance approval by the NRC of the routes used for road and rail shipments of spent fuel, and of any U.S. ports where vessels carrying spent fuel shipments are scheduled to stop.

(8) Provide that shipments are planned so that scheduled intermediate stops are avoided to the extent practicable.

(9) Provide that at least one escort maintains visual surveillance of the shipment during periods when the shipment vehicle is stopped, or the shipment vessel is docked.

(10) Provide that escorts (other than members of local law enforcement agencies, or ship's officers serving as unarmed escorts) have successfully completed the training required by appendix D of this part.

(11) Provide that shipment escorts make calls to the communications center at least every 2 hours to advise of the status of the shipment for road and rail shipments, and for sea shipments while shipment vessels are docked at U.S. ports.

(c) *Shipments by road.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by road shall provide that:

(1) A transport vehicle within a heavily populated area is:

(i) Occupied by at least two individuals, one of whom serves as escort, and escorted by an armed member of the local law enforcement agency in a mobile unit of such agency; or

(ii) Led by a separate vehicle occupied by at least one armed escort, and trailed by a third vehicle occupied by at least one armed escort.

(2) A transport vehicle not within any heavily populated area is:

(i) Occupied by at least one driver and one other individual who serves as escort; or

(ii) Occupied by a driver and escorted by a separate vehicle occupied by at least two escorts; or

(iii) Escorted as set forth in paragraph (c)(1) of this section.

(3) Escorts have the capability of communicating with the communications center, local law enforcement agencies, and one another, through the use of:

(i) A citizens band (CB) radio available in the transport vehicle and in each escort vehicle;

(ii) A radiotelephone or other NRC-approved equivalent means of two-way voice communications available in the transport vehicle or in an escort vehicle committed to travel the entire route; and

(iii) Citizens band (CB) radio and normal local law enforcement agency radio communications in any local law enforcement agency mobile units used for escort purposes.

(4) The transport is equipped with NRC-approved features that permit immobilization of the cab or cargo-carrying portion of the vehicle.

(5) The transport vehicle driver has been familiarized with, and is capable of implementing, transport vehicle immobilization, communications, and other security procedures.

(d) *Shipments by rail.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by rail shall provide that:

(1) A shipment car within a heavily populated area is accompanied by two armed escorts (who may be members of a local law enforcement agency), at least one of whom is stationed at a location on the train that will permit observation of the shipment car while in motion.

(2) A shipment car not within any heavily populated area is accompanied by at least one escort stationed at a location on the train that will permit observation of the shipment car while in motion.

(3) Escorts have the capability of communicating with the communications center and local law enforcement agencies through the use of a radiotelephone, or other NRC-approved equivalent means of two-way voice communications, which shall be available on the train.

(e) *Shipments by sea.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by sea shall provide that:

(1) A shipment vessel, while docked at a U.S. port within a heavily populated area, is protected by:

(i) Two armed escorts stationed on board the shipment vessel, or stationed on the dock at a location that will permit observation of the shipment vessel; or

(ii) A member of a local law enforcement agency, equipped with normal LLEA radio communications, who is stationed on board the shipment vessel, or on the dock at a location that will permit observation of the shipment vessel.

(2) A shipment vessel, while within U.S. territorial waters, or while docked at a U.S. port not within a heavily populated area, is accompanied by an escort, who may be an officer of the shipment vessel's crew, who will assure that the shipment is unloaded only as authorized by the licensee.

(3) Escorts have the capability of communicating with the communications center and local law enforcement agencies through the use of a radiotelephone, or other NRC-approved equivalent means of two-way voice communications.

(f) Prior to the transport of spent fuel within or through a state a licensee subject to this section shall notify the governor or the governor's designee. The licensee shall comply with the following criteria in regard to a notification:

(1) The notification must be in writing and sent to the office of each appropriate governor or the governor's designee. A notification delivered by mail must be postmarked at least 7 days before transport of a shipment within or through the state. A notification delivered by messenger must reach the office of the governor or the governor's designee at least 4 days before transport of a shipment within or through the state. A list of the mailing addresses of governors and governors' designees is available upon request from the Director, Office of Governmental and Public Affairs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

(2) The notification must include the following information:

(i) The name, address, and telephone number of the shipper, carrier and receiver.

(ii) A description of the shipment as specified by the Department of Transportation in 49 CFR § 172.202 and § 172.203(d).

(iii) A listing of the routes to be used within the state.

(iv) A statement that the information described below in § 73.37(f)(3) is required by NRC regulations to be protected in accordance with the requirements of § 73.21.

(3) The licensee shall provide the following information on a separate enclosure to the written notification:

(i) The estimated date and time of departure from the point of origin of the shipment.

(ii) The estimated date and time of entry into the governor's state.

(iii) For the case of a single shipment whose schedule is not related to the schedule of any subsequent shipment, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until at least 10 days after the shipment has entered or originated within the state.

(iv) For the case of a shipment in a series of shipments whose schedules are related, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until 10 days after the last shipment in the series has entered or originated within the state and an estimate of the date on which the last shipment in the series will enter or originate within the state.

(4) A licensee shall notify by telephone or other means a responsible individual in the office of the governor or in the office of the governor's designee of any schedule change that differs by more than 6 hours from the schedule information previously furnished in accordance with § 73.37(f)(3), and shall inform that individual of the number of hours of advance or delay relative to the written schedule information previously furnished.

(g) State officials, state employees, and other individuals, whether or not licensees of the Commission, who receive schedule information of the kind specified in § 73.37(f)(3) shall protect that information against unauthorized disclosure as specified in § 73.21.

[45 FR 37408, June 3, 1980, as amended at 47 FR 603, Jan. 6, 1982; 52 FR 31613, Aug. 21, 1987; 53 FR 19257, May 27, 1988]

PHYSICAL PROTECTION REQUIREMENTS AT FIXED SITES

§ 73.40 Physical protection: General requirements at fixed sites.

(a) Each licensee shall provide physical protection against radiological sabotage and against theft of special nuclear material at the fixed sites where licensed activities are conducted. Physical security systems shall be established and maintained by the licensee in accordance with security plans approved by the Nuclear Regulatory Commission.

(b) Each licensee subject to the requirements of §§ 73.20, 73.45, 73.46, 73.50, 73.55, or § 73.60 shall prepare a safeguards contingency plan in accordance with the criteria set forth in appendix C to this part. The licensee shall retain the current plan as a record until the Commission terminates the license for which the plan was developed and, if any portion of the plan is superseded, retain the superseded material for three years after each change. The safeguards contingency plan must include plans for dealing with threats, thefts, and radiological sabotage relating to nuclear facilities licensed under part 50 or to the possession of special nuclear material licensed under part 70 of this chapter. Each licensee subject to the requirements of this paragraph shall submit to the Commission for approval the first four categories of information contained in the safeguards contingency plan. (The first four categories of information, as set forth in appendix C to this part, are Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix. The fifth category of information, Procedures, does not have to be submitted for approval.)[1] The plan becomes effective and must be followed by the licensee 30 days after approval by the Commission.

(c) Prior to the plan becoming effective, the licensee shall have:

(1) All safeguards capabilities specified in his safeguards contingency plan available and functional,

(2) Detailed procedures developed according to appendix C to this part available at the licensee's site. The licensee shall retain a copy of the current procedures as a record until the Commission terminates the license for which the procedures were developed and, if any portion of the procedures is superseded, retain the superseded material for three years after each change, and

(3) All appropriate personnel trained to respond to safeguards incidents as outlined in the plan and specified in the detailed Procedures.

(d) The licensee shall provide for the implementation, revision, and maintenance of this safeguards contingency plan. To this end, the licensee shall provide for a review at least every twelve months of the safeguards contingency plan by individuals independent of both security program management and personnel who have direct responsibility for implementation of the security program. The review must include a review and audit of safeguards contingency procedures and practices, an audit of the security system testing and maintenance program, and a test of the safeguards system along with commitments established for response by local law enforcement authorities. The results of the review and audit, along with recommendations for improvements must be documented, reported to the licensee's corporate and plant management, and kept available at the plant for inspection for a period of three years from the date of the review or audit.

(Sec. 161i, Pub. L. 83-703, 68 Stat. 948; secs. 201, 204(b)(1), Pub. L. 93-438, 88 Stat. 1242, 1245 (42 U.S.C. 2201, 5841, 5844))

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[1] Licensees subject to § 73.55 may modify their physical security plans to incorporate contingency plan information specified in appendix C to this part. A physical security plan that contains all the information required in both § 73.55 and appendix C to part 73 satisfies the requirement for a contingency plan.

[43 FR 11965, Mar. 23, 1978; 43 FR 14007, Apr. 4, 1978, as amended at 44 FR 68188, Nov. 28, 1979; 53 FR 19258, May 27, 1988]

§ 73.45 Performance capabilities for fixed site physical protection systems.

(a) To meet the general performance requirements of § 73.20 a fixed site physical protection system shall include the performance capabilities described in paragraphs (b) through (g) of this section unless otherwise authorized by the Commission.

(b) Prevent unauthorized access of persons, vehicles and materials into material access areas and vital areas. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized material across material access or vital area boundaries by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and material to material access and vital area entry control points and to delay any unauthorized penetration attempts by persons or materials sufficient to assist detection and permit a response that will prevent the penetration; and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized penetration attempts by persons or materials at the time of the attempt so that the response can prevent the unauthorized access or penetration.

(2) Detect attempts to gain unauthorized access or introduce unauthorized materials into material access areas or vital areas by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and assess such identity against current authorization schedules and entry criteria before permitting entry and to initiate response measures to deny unauthorized entries.

(c) Permit only authorized activities and conditions within protected areas, material access areas, and vital areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized activities or conditions within protected areas, material access areas and vital areas using the following subsystems and subfunctions:

(i) Controls and procedures that establish current schedules of authorized activities and conditions in defined areas;

(ii) Boundaries to define areas within which the authorized activities and conditions are permitted; and

(iii) Detection and surveillance subsystems and procedures to discover and assess unauthorized activities and conditions and communicate them so that response can be such as to stop the activity or correct the conditions to satisfy the general performance objective and requirements of § 73.20(a).

(d) Permit only authorized placement and movement of strategic special nuclear material within material access areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized placement and movement of strategic special nuclear material within the material access area using the following subsystems and subfunctions:

(i) Controls and procedures to delineate authorized placement and control for strategic special nuclear material;

(ii) Controls and procedures to establish current authorized placement and movement of all strategic special nuclear material within material access areas;

(iii) Controls and procedures to maintain knowledge of the identity, quantity, placement, and movement of all strategic special nuclear material within material access areas; and

(iv) Detection and monitoring subsystems and procedures to discover and assess unauthorized placement and movement of strategic special nuclear material and communicate them so that response can be such as to return the strategic special nuclear material to authorized placement or control.

(e) Permit removal of only authorized and confirmed forms and amounts of strategic special nuclear material from material access areas. To achieve this capability the physical protection system shall:

(1) Detect attempts at unauthorized removal of strategic special nuclear material from material access areas by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and materials exiting a material access area to exit control points and to delay any unauthorized strategic special nuclear material removal attempts sufficient to assist detection and assessment and permit a response that will prevent the removal; and satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to prevent the removal and satisfy the general performance objective and requirements of § 73.20(a).

(2) Confirm the identity and quantity of strategic special nuclear material presented for removal from a material access area and detect attempts at unauthorized removal of strategic special nuclear material from material access areas by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the authorized properties and quantities of material to be removed, the persons authorized to remove the material, and the authorized time schedule;

(ii) Removal controls and procedures to identify and confirm the properties and quantities of material being removed and verify the identity of the persons making the removal and time of removal and assess these against the current authorized removal schedule before permitting removal; and

(iii) Communications subsystems and procedures to provide for notification of an attempted unauthorized or unconfirmed removal so that response can be such as to prevent the removal and satisfy the general performance objective and requirements of § 73.20(a).

(f) Provide for authorized access and assure detection of and response to unauthorized penetrations of the protected area to satisfy the general performance objective and requirements of § 73.20(a). To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons, vehicles, and materials to protected area entry control points; and to delay any unauthorized penetration attempts or the introduction of unauthorized vehicles or materials sufficient to assist detection and assessment and permit a response that will prevent the penetration or prevent such penetration and satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized access or penetrations or such attempts by persons, vehicles, or materials at the time of the act or the attempt so that the response can be such as to prevent the unauthorized access or penetration and satisfy the general performance objective and requirements of § 73.20(a).

(2) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for persons, vehicles, and materials; and

(ii) Entry controls and procedures to verify the identity of persons, materials and vehicles and assess such identity against current authorization schedules before permitting entry and to initiate response measures to deny unauthorized access.

(g) *Response.* Each physical protection program shall provide a response capability to assure that the five capabilities described in paragraphs (b) through (f) of this section are achieved and that adversary forces will be engaged and impeded until offsite assistance forces arrive. To achieve this capability a licensee shall:

(1) Establish a security organization to:

(i) Provide trained and qualified personnel to carry out assigned duties and responsibilities; and

(ii) Provide for routine security operations and planned and predetermined response to emergencies and safeguards contingencies.

(2) Establish a predetermined plan to respond to safeguards contingency events.

(3) Provide equipment for the security organization and facility design features to:

(i) Provide for rapid assessment of safeguards contingencies;

(ii) Provide for response by assigned security organization personnel which is sufficiently rapid and effective to achieve the predetermined objective of the response; and

(iii) Provide protection for the assessment and response personnel so that they can complete their assigned duties.

(4) Provide communications networks to:

(i) Transmit rapid and accurate security information among onsite forces for routine security operation, assessment of a contingency, and response to a contingency; and

(ii) Transmit rapid and accurate detection and assessment information to offsite assistance forces.

(5) Assure that a single adversary action cannot destroy the capability of the security organization to notify offsite response forces of the need for assistance.

[44 FR 68193, Nov. 28, 1979]

§ 73.46 Fixed site physical protection systems, subsystems, components, and procedures.

(a) A licensee physical protection system established pursuant to the general performance objective and requirements of § 73.20(a) and the performance capability requirements of § 73.45 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (h) of this section. The Commission may require, depending on individual facility and site conditions, alternate or additional measures deemed necessary to meet the general performance objective and requirements of § 73.20. The Commission also may authorize protection measures other than those required by this section if, in its opinion, the overall level of performance meets the general performance objective and requirements of § 73.20 and the performance capability requirements of § 73.45.

(b) *Security organization.* (1) The licensee shall establish a security organization, including guards. If a contract guard force is utilized for site security, the licensee's written agreement with the contractor will clearly show that (i) the licensee is responsible to the Commission for maintaining safeguards in accordance with Commission regulations and the licensee's security plan, (ii) the NRC may inspect, copy, and take away copies of all reports and documents required to be kept by Commission regulations, orders, or applicable license conditions whether such reports and documents are kept by the licensee or the contractor, (iii) the requirement, in § 73.46(b)(4) of this section that the licensee demonstrate the ability of physical security personnel to perform their assigned duties and responsibilities, include demonstration of the ability of the contractor's physical security personnel to perform their assigned duties and responsibilities in carrying out the provisions of the Security Plan and these regulations, and (iv) the contractor will not assign any personnel to the site who have not first been made aware of these responsibilities.

(2) The licensee shall have onsite at all times at least one full time member of the security organization with authority to direct the physical protection activities of the security organization.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

(i) Written security procedures which document the structure of the security organization and which detail the duties of the Tactical Response

Team, guards, watchmen, and other individuals responsible for security. The licensee shall retain a copy of the current procedures as a record until the Commission terminates the license for which these procedures were developed and, if any portion of these procedures is superseded, retain the superseded material for three years after each change; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security function.

(4) The licensee may not permit an individual to act as a guard, watchman, Tactical Response Team member, or other member of the security organization unless the individual has been trained, equipped, and qualified to perform each assigned security duty in accordance with appendix B of this part, "General Criteria for Security Personnel," In addition, guards and Tactical Response Team members shall be trained, equipped, and qualified in accordance with paragraphs (b)(6) and (b)(7) of this section. Upon the request of an authorized representative of the Commission, the licensee shall demonstrate the ability of the physical security personnel, whether licensee or contractor employees, to carry out their assigned duties and responsibilities. Each guard, watchman, Tactical Response Team member, or other member of the security organization, whether a licensee or contractor employee, shall requalify in accordance with appendix B of this part, and , for guards and Tactical Response Team members, in accordance with paragraph (b)(7) of this section, at least every 12 months. The licensee shall document the results of the qualification and requalification. The licensee shall retain the documentation of each qualification and requalification as a record for three years after each qualification and requalification.

(5) Within any given period of time, a member of the security organization may not be assigned to, or have direct operational control over, more than one of the redundant elements of a physical protection subsystem if such assignment or control could result in the loss of effectiveness of the subsystem.

(6) Each guard shall be armed with a handgun, as described in appendix B of this part. Each Tactical Response Team member shall be armed with a 9mm semiautomatic pistol. All but one member of the Tactical Response Team shall be armed additionally with either a shotgun or semiautomatic rifle, as described in appendix B of this part. The remaining member of the Tactical Response Team shall carry, as an individually assigned weapon, a rifle of no less caliber than .30 inches or 7.62mm.

(7) In addition to the qualification criteria of appendix B of this part, guards and Tactical Response Team members shall qualify and requalify annually for night firing with assigned weapons in accordance with appendix H of this part. The licensee or the licensee's agent shall document the results of weapons qualification and requalification for night firing. The licensee shall retain the documentation of each qualification and requalification as a record for three years after each qualification and requalification.

(8) In addition to the training requirements contained in appendix B of this part, Tactical Response Team members shall successfully complete training in response tactics. The licensee shall document the completion of training. The licensee shall retain the documentation of training as a record for three years after training is completed.

(9) The licensee shall conduct Tactical Response Team and guard exercises to demonstrate the overall security system effectiveness and the ability of the security force to perform response and contingency plan responsibilities and to demonstrate individual skills in assigned team duties. During the first 12-month period following the date specified in paragraph (i)(2)(ii) of this section, an exercise must be carried out at least every three months for each shift, half of which are to be force-on-force. Subsequently, during each 12-month period commencing on the anniversary of the date specified in paragraph (i)(2)(ii) of this section, an exercise must be carried out at least every four months for

each shift, one third of which are to be force-on-force. The licensee shall use these exercises to demonstrate its capability to respond to attempts to steal strategic special nuclear material. During each of the 12-month periods, the NRC shall observe one of the force-on-force exercises which demonstrates overall security system performance. The licensee shall notify the NRC of the scheduled exercise 60 days prior to that exercise. The licensee shall document the results of all exercises. The licensee shall retain the documentation of each exercise as a record for three years after each exercise is completed.

(c) *Physical barrier subsystems.* (1) vital equipment must be located only within a vital area, and strategic special nuclear material must be stored or processed only in a material access area. Both vital areas and material access areas must be located within a protected area so that access to vital equipment and to strategic special nuclear material requires passage through at least three physical barriers. The perimeter of the protected area must be provided with two separated physical barriers with an intrusion detection system placed between the two. The inner barrier must be positioned and constructed to enhance assessment of penetration attempts and to delay attempts at unauthorized exit from the protected area. The perimeter of the protected area must also incorporate features and structures that prevent forcible vehicle entry. More than one vital area or material access area may be located within a single protected area.

(2) The physical barriers at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier for a vital area or material access area within the protected area.

(3) Isolation zones shall be maintained in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and shall be large enough to permit observation of the activities of people on either side of that barrier in the event of its penetration. If parking facilities are provided for employees or visitors, they shall be located outside the isolation zone and exterior to the protected area.

(4) Isolation zones and all exterior areas within the protected area shall be provided with illumination sufficient for the monitoring and observation requirements of paragraphs (c)(3), (e)(8), (h)(4) and (h)(6) of this section, but not less than 0.2 footcandle measured horizontally at ground level.

(5) Strategic special nuclear material, other than alloys, fuel elements or fuel assemblies, shall:

(i) Be stored in a vault when not undergoing processing if the material can be used directly in the manufacture of a nuclear explosive device. Vaults used to protect such material shall be capable of preventing entry to stored SSNM by a single action in a forced entry attempt, except as such single action would both destroy the barrier and render contained SSNM incapable of being removed, and shall provide sufficient delay to prevent removal of stored SSNM prior to arrival of response personnel capable of neutralizing the design basis threat stated in § 73.1.

(ii) Be stored in tamper-indicating containers;

(iii) Be processed only in material access areas constructed with barriers that provide significant delay to penetration; and

(iv) Be kept in locked compartments or locked process equipment while undergoing processing except when personally attended.

(6) Enriched uranium scrap (enriched to 20% or greater) in the form of small pieces, cuttings, chips, solutions or in other forms which result from a manufacturing process, contained in 30 gallon or larger containers with a uranium-235 content of less than 0.25 grams per liter, may be stored within a locked and separately fenced area within a larger protected area provided that the storage area fence is no closer than 25 feet to the perimeter of the protected area. The storage area when unoccupied shall be protected by a guard or watchman who shall patrol at intervals not exceeding 4 hours, or by intrusion alarms.

(d) *Access control subsystems and procedures.* (1) A numbered picture badge identification subsystem shall be used for all individuals who are authorized access to protected areas without escort. An individual not employed by the licensee but who requires frequent and extended access to protected, material access, or vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area and returns the badge upon exit from the protected area, and that the badge indicates, (i) Non-employee—no escort required; (ii) areas to which access is authorized and (iii) the period for which access has been authorized. Badges shall be displayed by all individuals while inside the protected areas.

(2) Unescorted access to vital areas, material access areas and controlled access areas shall be limited to individuals who are authorized access to the material and equipment in such areas, and who require such access to perform their duties. Access to material access areas shall include at least two individuals. Authorization for such individuals shall be indicated by the issuance of specially coded numbered badges indicating vital areas, material access areas, and controlled access areas to which access is authorized. No activities other than those which require access to strategic special nuclear material or to equipment used in the processing, use, or storage of strategic special nuclear material, or necessary maintenance, shall be permitted within a material access area.

(3) The licensee shall establish and follow written procedures that will permit access control personnel to identify those vehicles that are authorized and those materials that are not authorized entry to protected, material access, and vital areas. The licensee shall retain a copy of the current procedures as a record until the Commission terminates each license for which the procedures were developed and, if any portion of the procedures is superseded, retain the superseded material for three years after each change.

(4)(i) The licensee shall control all points of personnel and vehicle access into a protected area. Identification and search of all individuals for firearms, explosives, and incendiary devices must be made and authorization must be checked at these points except for Federal, State, and local law enforcement personnel on official duty and United States Department of Energy couriers engaged in the transport of special nuclear material. The search function for detection of firearms, explosives, and incendiary devices must be accomplished through the use of detection equipment capable of detecting both firearms and explosives. The individual responsible for the last access control function (controlling admission to the protected area) shall be isolated within a structure with bullet resisting walls, doors, ceiling, floor, and windows.

(ii) When the licensee has cause to suspect that an individual is attempting to introduce firearms, explosives, or incendiary devices into a protected area, the licensee shall conduct a physical pat-down search of that individual. Whenever firearms or explosives detection equipment at a portal is out of service or not operating satisfactorily, the licensee shall conduct a physical pat-down search of all persons who would otherwise have been subject to search using the equipment.

(5) At the point of personnel and vehicle access into a protected area, all hand-carried packages except those carried by individuals exempted from personal search under the provisions of paragraph (d)(4)(i) of this part must be searched for firearms, explosives, and incendiary devices.

(6) All packages and material for delivery into a protected area must be checked for proper identification and authorization and searched for firearms, explosives, and incendiary devices prior to admittance into the protected area, except those Commission-approved delivery and inspection activities specifically designated by the licensee to be carried out within material access, vital, or protected areas for reasons of safety, security, or operational necessity.

(7) All vehicles, except United States Department of Energy vehicles engaged in transporting special nuclear material and emergency vehicle

under emergency conditions, shall be searched for firearms, explosives, and incendiary devices prior to entry into the protected area. Vehicle areas to be searched shall include the cab, engine compartment, undercarriage, and cargo area.

(8) All vehicles, except designated licensee vehicles, requiring entry into the protected area shall be escorted by a member of the security organization while within the protected area, and to the extent practicable shall be offloaded in an area that is not adjacent to a vital area. Designated licensee vehicles shall be limited in their use to onsite plant functions and shall remain in the protected area except for operational, maintenance, security and emergency purposes. The licensee shall exercise positive control over all such designated vehicles to assure that they are used only by authorized persons and for authorized purposes.

(9) The licensee shall control all points of personnel and vehicle access to material access areas, vital areas, and controlled access areas. At least two armed guards trained in accordance with the provisions contained in paragraph (b)(7) of this section and appendix B of this part shall be posted at each material access area control point whenever in use. Identification and authorization of personnel and vehicles must be verified at the material access area control point. Prior to entry into a material access area, packages must be searched for firearms, explosives, and incendiary devices. All vehicles, materials and packages, including trash, wastes, tools, and equipment exiting from a material access area must be searched for concealed strategic special nuclear material by a team of at least two individuals who are not authorized access to that material access area. Each individual exiting a material access area shall undergo at least two separate searches for concealed strategic special nuclear material. For individuals exiting an area that contains only alloyed or encapsulated strategic special nuclear material, the second search may be conducted in a random manner.

(10) Before exiting from a material access area, containers of contaminated wastes must be drum scanned and tamper sealed by at least two individuals, working and recording their findings as a team, who do not have access to material processing and storage areas. The licensee shall retain the records of these findings for three years after the record is made.

(11) Strategic special nuclear material being prepared for shipment offsite, including product, samples and scrap, shall be packed and placed in sealed containers in the presence of at least two individuals working as a team who shall verify and certify the content of each shipping container through the witnessing of gross weight measurements and nondestructive assay, and through the inspection of tamper seal integrity and associated seal records.

(12) Areas used for preparing strategic special nuclear material for shipment and areas used for packaging and screening trash and wastes shall be controlled access areas and shall be separated from processing and storage areas.

(13) Individuals not permitted by the licensee to enter protected areas without escort must be escorted by a watchman or other individual designated by the licensee while in a protected area and must be badged to indicate that an escort is required. In addition, the individual shall be required to register his or her name, date, time, purpose of visit and employment affiliation, citizenship, and name of the individual to be visited in a log. The licensee shall retain each log as a record for three years after the last entry is made in the log.

(14) All keys, locks, combinations and related equipment used to control access to protected, material access, vital, and controlled access areas shall be controlled to reduce the probability of compromise. Whenever there is evidence that a key, lock, combination, or related equipment may have been compromised it shall be changed. Upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee had access, shall be changed.

(e) *Detection, surveillance and alarm subsystems and procedures.* (1) The licensee shall provide an intrusion alarm subsystem with a capability to detect penetration through the isolation zone and to permit response action.

(2) All emergency exits in each protected, material access, and vital area shall be locked to prevent entry from the outside and alarmed to provide local visible and audible alarm annunciation.

(3) All unoccupied vital areas and material access areas shall be locked and protected by an intrusion alarm subsystem which will alarm upon the entry of a person anywhere into the area, upon exit from the area, and upon movement of an individual within the area, except that for process material access areas only the location of the strategic special nuclear material within the area is required to be so alarmed. Vaults and process areas that contain strategic special nuclear material that has not been alloyed or encapsulated shall also be under the surveillance of closed circuit television that is monitored in both alarm stations. Additionally, means shall be employed which require that an individual other than an alarm station operator be present at or have knowledge of access to such unoccupied vaults or process areas.

(4) All manned access control points in the protected area barrier, all security patrols and guard stations within the protected area, and both alarm stations shall be provided with duress alarms.

(5) All alarms required pursuant to this section shall annunciate in a continuously manned central alarm station located within the protected area and in at least one other independent continuously manned onsite station not necessarily within the protected area, so that a single act cannot remove the capability of calling for assistance or responding to an alarm. The alarm stations shall be controlled access areas and their walls, doors, ceiling, floor, and windows shall be bullet-resisting. The central alarm station shall be located within a building so that the interior of the central alarm station is not visible from the perimeter of the protected area. This station may not contain any operational activities that would interfere with the execution of the alarm response function.

(6) All alarms required by this section shall remain operable from independent power sources in the event of the loss of normal power. Switchover to standby power shall be automatic and shall not cause false alarms on annunciator modules.

(7) All alarm devices including transmission lines to annunciators shall be tamper indicating and self-checking e.g., an automatic indication shall be provided when a failure of the alarm system or a component occurs, when there is an attempt to compromise the system, or when the system is on standby power. The annunciation of an alarm at the alarm stations shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location. The status of all alarms and alarm zones shall be indicated in the alarm stations.

(8) All exterior areas within the protected area shall be monitored or periodically checked to detect the presence of unauthorized persons, vehicles, materials, or unauthorized activities.

(9) Methods to observe individuals within material access areas to assure that strategic special nuclear material is not moved to unauthorized locations or in an unauthorized manner shall be provided and used on a continuing basis.

(f) *Communication subsystems.* (1) Each guard, watchman, or armed response individual on duty shall be capable of maintaining continuous communication with an individual in each continuously manned alarm station required by paragraph (e)(5) of this section, who shall be capable of calling for assistance from other guards, watchmen, and armed response personnel and from law enforcement authorities.

(2) Each alarm station required by paragraph (e)(5) of this section shall have both conventional telephone service and radio or microwave transmitted two-way voice communication, either directly or through an intermediary, for the capability of communication with the law enforcement authorities.

(3) Non-portable communications equipment controlled by the licensee

and required by this section shall remain operable from independent power sources in the event of the loss of normal power.

(g) *Test and maintenance programs.* The licensee shall have a test and maintenance program for intrusion alarms, emergency exit alarms, communications equipment, physical barriers, and other physical protection related devices and equipment used pursuant to this section that shall provide for the following:

(1) Tests and inspections during the installation and construction of physical protection related subsystems and components to assure that they comply with their respective design criteria and performance specifications.

(2) Preoperational tests and inspections of physical protection related subsystems and components to demonstrate their effectiveness and availability with respect to their respective design criteria and performance specifications.

(3) Operational tests and inspections of physical protection related subsystems and components to assure their maintenance in an operable and effective condition, including:

(i) Testing of each intrusion alarm at the beginning and end of any period that it is used. If the period of continuous use is longer than seven days, the intrusion alarm shall also be tested at least once every seven days.

(ii) Testing of communications equipment required for communications onsite, including duress alarms, for performance not less frequently than once at the beginning of each security personnel work shift. Communications equipment required for communications offsite shall be tested for performance not less than once a day.

(4) Preventive maintenance programs shall be established for physical protection related subsystems and components to assure their continued maintenance in an operable and effective condition.

(5) All physical protection related subsystems and components shall be maintained in operable condition. The licensee shall develop and employ corrective action procedures and compensatory measures to assure that the effectiveness of the physical protection system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures. Repairs and maintenance shall be performed by at least two individuals working as a team who have been trained in the operation and performance of the equipment. The security organization shall be notified before and after service is performed and shall conduct performance verification tests after the service has been completed.

(6) The security program shall be reviewed at least every 12 months by individuals independent of both security management and security supervision. The review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, and audit of the physical protection system testing and maintenance program, and an audit of commitments established for response by local law enforcement authorities. The results of the review, audit, and evaluation along with recommendations, corrections and improvements, if any, shall be documented, reported to the licensee's plant management, and to corporate management at least one level higher than that having responsibility for the day to day plant operations. The reports shall be kept available at the plant for inspection for a period of five years.

(h) *Contingency and response plans and procedures.* (1) The licensee shall have a safeguards contingency plan for dealing with threats, thefts, and radiological sabotage related to the strategic special nuclear material and nuclear facilities subject to the provisions of this section. Safeguards contingency plans must be in accordance with the criteria in appendix C to this part, "Licensee Safeguards Contingency Plans." Contingency plans must include, but need not be limited to, the response requirements in paragraphs (h)(2) through (h)(5) of this section. The licensee shall retain a copy of the current safeguards contingency plan as a record until the Commission terminates the license and, if any portion of the plan is superseded, retain the superseded material for three years after each change.

(2) The licensee shall establish and document response arrangements that have been made with local law enforcement authorities. The licensee shall retain documentation of the current arrangements as a record until the Commission terminates each license requiring the arrangements and, if any arrangement is superseded, retain the superseded material for three years after each change.

(3) A Tactical Response Team consisting of a minimum of five (5) members must be available at the facility to fulfill assessment and response requirements. In addition, a force of guards or armed response personnel also must be available to provide assistance as necessary. The size and availability of the additional force must be determined on the basis of site-specific considerations that could affect the ability of the total onsite response force to engage and impede the adversary force until offsite assistance arrives. The rationale for the total number and availabiliy of onsite armed response personnel must be included in the physical protection plans submitted to the Commission for approval.

(4) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, a material access area, or a vital area, or upon evidence or indication of intrusion into a protected area, a material access area, or a vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responding guards or other armed response personnel to interpose themselves between vital areas and material access areas and any adversary attempting entry for purposes of radiological sabotage or theft of strategic special nuclear material and to intercept any person exiting with special nuclear material, and

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(5) The licensee shall instruct every guard and all armed response personnel to prevent or impede acts of radiological sabotage or theft of strategic special nuclear material by using force sufficient to counter the force directed at him including the use of deadly force when the guard or other armed response person has a reasonable belief that it is necessary in self-defense or in the defense of others.

(6) To facilitate initial response to detection of penetration of the protected area and assessment of the existence of a threat, a capability of observing the isolation zones and the physical barrier at the perimeter of the protected area shall be provided, preferably by means of closed circuit television or by other suitable means which limit exposure of responding personnel to possible attack.

(7) Alarms occurring within unoccupied vaults and unoccupied material access areas containing unalloyed or unencapsulated strategic special nuclear material shall be assessed by at least two security personnel using closed circuit television (CCTV) or other remote means.

(8) Alarms occurring within unoccupied material access areas that contain only alloyed or encapsulated strategic special nuclear material shall be assessed as in paragraph (h)(7) of this section or by at least two security personnel who shall undergo a search before exiting the material access area.

(i) *Implementation schedule for revisions to physical protection plans.* (1) By June 12, 1989, each licensee shall submit a revised fixed site physical protection plan to the Commission for approval. The revised plan must describe how the licensee will comply with the requirements of paragraphs (b)(3)(i), (b)(4), (b)(6), (b)(7), (b)(8), (b)((9), (c)(1), (d)(4), (d)(5), (d)(6), (d)(9), and (h)(3) of this section. Revised plans must be mailed to the Director, Division of Safeguards and Transportation, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(2) Each licensee shall carry out the new commitments in the revised plan in accordance with the following schedule:

(i) Commencing 30 days after Commission approval of the revised plan for commitments related to paragraphs (b)(3)(i), (d)(4), (d)(5), (d)(6) and (d)(9) of this section.

(ii) Commencing 60 days after Commission approval of the revised plan for commitments related to paragraphs (b)(4), (b)(6), (b)(7), (b)(8), (b)(9) and (h)(3) of this section.

(iii) Commencing 365 days after Commission approval of the revised plan for commitments related to paragraph (c)(1) of this section.

[44 FR 68194, Nov. 28, 1979, as amended at 53 FR 19258, May 27, 1988; 53 FR 23383, June 22, 1988; 53 FR 45452, Nov. 10, 1988]

§ 73.50 Requirements for physical protection of licensed activities.

Each licensee who possesses, uses, or stores formula quantities of strategic special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding other than at a nuclear reactor facility licensed pursuant to part 50 of this chapter shall comply with the following:

(a) *Physical security organization.* (1) The licensee shall establish a security organization, including guards, to protect his facility against radiological sabotage and the special nuclear material in his possession against theft.

(2) At least one supervisor of the security organization shall be on site at all times.

(3) The licensee shall establish, maintain, and follow written security procedures that document the structure of the security organization and detail the duties of guards, watchmen, and other individuals responsible for security. The licensee shall retain a copy of the current procedures as a record until the Commission terminates each license for which the procedures were developed and, if any portion of the procedures is superseded, retain the superseded material for three years after each change.

(4) The licensee may not permit an individual to act as a guard, watchman, armed response person, or other member of the security organization unless the individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with appendix B, "General Criteria for Security Personnel," to this part. Upon the request of an authorized representative of the Commission, the licensee shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, and other member of the security organization shall requalify in accordance with appendix B to this part at least every 12 months. This requalification must be documented. The licensee shall retain the documentation of each requalification as a record for three years after the requalification.

(b) *Physical barriers.* (1) The licensee shall locate vital equipment only within a vital area, which, in turn, shall be located within a protected area such that access to vital equipment requires passage through at least two physical barriers. More than one vital area may be within a single protected area.

(2) The licensee shall locate material access areas only within protected areas such that access to the material access area requires passage through at least two physical barriers. More than one material access area may be within a single protected area.

(3) The physical barrier at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier within the protected area, and the intervening space monitored or periodically checked to detect the presence of persons or vehicles so that the facility security organization can respond to suspicious activity or to the breaching of any physical barrier.

(4) An isolation zone shall be maintained around the physical barrier at the perimeter of the protected area and any part of a building used as part of that physical barrier. The isolation zone shall be monitored to detect the presence of individuals or vehicles within the zone so as to allow response by armed members of the license security organization to be initiated at the time of penetration of the protected

area. Parking facilities, both for employees and visitors, shall be located outside the isolation zone.

(5) Isolation zones and clear areas between barriers shall be provided with illumination sufficient for the monitoring required by paragraphs (b) (3) and (4) of this section, but not less than 0.2 foot candles.

(c) *Access requirements.* The licensee shall control all points of personnel and vehicle access into a protected area, including shipping or receiving areas, and into each vital area. Identification of personnel and vehicles shall be made and authorization shall be checked at such points.

(1) At the point of personnel and vehicle access into a protected area, all individuals, except employees who possess a NRC or United States Department of Energy access authorization, and all hand-carried packages shall be searched for devices such as firearms, explosives, and incendiary devices, or other items which could be used for radiological sabotage. The search shall be conducted either by a physical search or by the use of equipment capable of detecting such devices. Employees who possess an NRC or Department of Energy access authorization shall be searched at random intervals. Subsequent to search, drivers of delivery and service vehicles shall be escorted at all times while within the protection area.

(2) All packages being delivered into the protected area shall be checked for proper identification and authorization. Packages other than hand-carried packages shall be searched at random intervals.

(3) A picture badge identification system shall be used for all individuals who are authorized access to protected areas without escort.

(4) Access to vital areas and material access areas shall be limited to individuals who are authorized access to vital equipment or special nuclear material and who require such access to perform their duties. Authorization for such individuals shall be provided by the issuance of specially coded numbered badges indicating vital areas and material access areas to which access is authorized. Unoccupied vital areas and material access areas shall be protected by an active intrusion alarm system.

(5) Individuals not employed by the licensee must be escorted by a watchman, or other individual designated by the licensee, while in a protected area and must be badged to indicate that an escort is required. In addition, the licensee shall require that each individual not employed by the licensee register his or her name, date, time, purpose of visit, employment affiliation, citizenship, name and badge number of the escort, and name of the individual to be visited. The licensee shall retain the register of information for three years after the last entry is made in the register. Except for a driver of a delivery or service vehicle, an individual not employed by the licensee who requires frequent and extended access to a protected area or a vital area need not be escorted if the individual is provided with a picture badge, which the individual must receive upon entrance into the protected area and return each time he or she leaves the protected area, that indicates—

(i) Nonemployee-no escort required,

(ii) Areas to which access is authorized, and

(iii) The period for which access has been authorized.

(6) No vehicles used primarily for the conveyance of individuals shall be permitted within a protected area except under emergency conditions.

(7) Keys, locks, combinations, and related equipment shall be controlled to minimize the possibility of compromise and promptly changed whenever there is evidence that they have been compromised. Upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee had access shall be changed.

(d) *Detection aids.* (1) All alarms required pursuant to this part shall annunciate in a continuously manned central alarm station located within the protected area and in at least one other continuously manned station not necessarily within the protected area, such that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm. All alarms shall be self-checking and tamper indicating. The annunciation of an alarm at the onsite central alarm station shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location. All intrusion alarms, emergency exit alarms, alarm systems, and line supervisory systems shall at minimum meet the performance and reliability levels indicated by GSA Interim Federal Specification W-A-00450 B (GSA-FSS).

(2) All emergency exits in each protected area and each vital area shall be alarmed.

(e) *Communication requirements.* (1) Each guard or watchman on duty shall be capable of maintaining continuous communication with an individual in a continuously manned central alarm station within the protected area, who shall be capable of calling for assistance from other guards and watchmen and from local law enforcement authorities.

(2) The alarm stations required by paragraph (d)(1) of this section shall have conventional telephone service for communication with the law enforcement authorities as described in paragraph (e)(1) of this section.

(3) To provide the capability of continuous communication, two-way radio voice communication shall be established in addition to conventional telephone service between local law enforcement authorities and the facility and shall terminate at the facility in a continuously manned central alarm station within the protected area.

(4) All communications equipment, including offsite equipment, shall remain operable from independent power sources in the event of loss of primary power.

(f) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment utilized pursuant to this section as follows:

(1) All alarms, communications equipment, physical barriers, and other security related devices or equipment shall be maintained in operable and effective condition.

(2) Each intrusion alarm shall be functionally tested for operability and required performance at the beginning and end of each interval during which it is used for security, but not less frequently than once every seven (7) days.

(3) Communications equipment shall be tested for operability and performance not less frequently than once at the beginning of each security personnel work shift.

(g) *Response requirement.* (1) The licensee shall have a safeguards contingency plan for dealing with threats, thefts, and radiological sabotage related to the special nuclear material and nuclear facilities subject to the provisions of this section. Safeguards contingency plans must be in accordance with the criteria in appendix C to this part, "Licensee Safeguards Contingency Plans." The licensee shall retain a copy of the plan and each change to the plan as a record until the Commission terminates each license for which the plan was developed and retain the superseded materials for three years after each change.

(2) The licensee shall establish and document liaison with law enforcement authorities. The licensee shall retain the documentation of the current liaison as a record until the Commission terminates each license for which the liaison was developed and, if any portion of the liaison documentation is superseded, retain the superseded material for three years after each change.

(3) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, a material access area, or a vital area; or upon evidence or indication of intrusion into a protected area, material access area, or vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any, and

(iii) Take immediate concurrent measures to neutralize the threat, by:

(A) Requiring responding guards to interpose themselves between material access areas and vital areas and any adversary attempting entry for the purpose of theft of special nuclear material or radiological sabotage and to intercept any person exiting with special nuclear material, and,

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(4) The licensee shall instruct every guard to prevent or impede attempted acts of theft or radiological sabotage by using force sufficient to counter the force directed at him including deadly force when the guard has a reasonable belief it is necessary in self-defense or in the defense of others.

(h) By February 20, 1979 each licensee shall submit a training and qualifications plan outlining the processes by which guards, watchmen, armed response persons and other members of the security organization will be selected, trained, equipped, tested, and qualified to assure these individuals meet the requirements of paragraph (a)(4) of this section. The training and qualifications plan shall include a schedule to show how all security personnel will be qualified by (within 2 years after October 23, 1978) or within two years after the submitted plan is approved, whichever is later. The training and qualifications plan shall be followed by the licensee after April 23, 1979 or 60 days after the submitted plan is approved by the NRC, whichever is later.

(Sec. 1611, Pub. L. 83-703, 68 Stat. 948, Pub. L. 93-377, 88 Stat. 475; secs. 201, 204(b)(1), Pub. L. 93-438, 88 Stat. 1242-1243, 1245, Pub. L. 94-79, 89 Stat. 413 (42 U.S.C. 2201, 5841, 5844))

[38 FR 35430, Dec. 28, 1973, as amended at 42 FR 64103, Dec. 22, 1977; 43 FR 11965, Mar. 23, 1978; 43 FR 37426, Aug. 23, 1978; 44 FR 68198, Nov. 28, 1979; 53 FR 19259, May 27, 1988]

§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.

By Dec. 2, 1986 each licensee, as appropriate, shall submit proposed amendments to its security plan which define how the amended requirements of paragraphs (a), (d)(7), (d)(9), and (e)(1) will be met. Each submittal must include a proposed implementation schedule for Commission approval. The amended safeguards requirements of these paragraphs must be implemented by the licensee within 180 days after Commission approval of the proposed security plan in accordance with the approved schedule.

(a) *General performance objective and requirements.* The licensee shall establish and maintain an onsite physical protection system and security organization which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety. The physical protection system shall be designed to protect against the design basis threat of radiological sabotage as stated in § 73.1(a). To achieve this general performance objective, the onsite physical protection system and security organization must include, but not necessarily be limited to, the capabilities to meet the specific requirements contained in paragraphs (b) through (h) of this section. The Commission may authorize an applicant or licensee to provide measures for protection against radiological sabotage other than those required by this section if the applicant or licensee demonstrates that the measures have the same high assurance objective as specified in this paragraph and that the overall level of system performance provides protection against radiological sabotage equivalent to that which would be provided by paragraphs (b) through (h) of this section and meets the general performance requirements of this section. Specifically, in the special cases of licensed operating reactors with adjacent reactor power plants under construction, the licensee shall provide and maintain a level of physical protection of the operating reactor against radiological sabotage equivalent to the requirements of this section. In accordance with §§ 50.54(x) and 50.54(y) of part 50, the licensee may suspend any safeguards measures pursuant to § 73.55 in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specification that can provide adequate or equivalent protection is immediately apparent. This suspension must be approved as a minimum by a licensed senior operator prior to taking the action. The suspension of safeguards measures must be reported in accordance with the provisions of § 73.71. Reports made under § 50.72 need not be duplicated under § 73.71.

(b) *Physical Security Organization.* (1) The licensee shall establish a security organization, including guards, to protect his facility against radiological sabotage. If a contract guard force is utilized for site security, the licensee's written agreement with the contractor that must be retained by the licensee as a record for the duration of the contract will clearly show that:

(i) The licensee is responsible to the Commission for maintaining safeguards in accordance with Commission regulations and the licensee's security plan,

(ii) The NRC may inspect, copy, and take away copies of all reports and documents required to be kept by Commission regulations, orders, or applicable license conditions whether the reports and documents are kept by the licensee or the contractor,

(iii) The requirement in paragraph (b)(4) of this section that the licensee demonstrate the ability of physical security personnel to perform their assigned duties and responsibilities, includes demonstration of the ability of the contractor's physical security personnel to perform their assigned duties and responsibilities in carrying out the provisions of the Security Plan and these regulations, and

(iv) The contractor will not assign any personnel to the site who have not first been made aware of these responsibilities.

(2) At least one full time member of the security organization who has the authority to direct the physical protection activities of the security organization shall be onsite at all times.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

(i) Written security procedures that document the structure of the security organization and detail the duties of guards, watchmen, and other individuals responsible for security. The licensee shall maintain a copy of the current procedures as a record until the Commission terminates each license for which the procedures were developed and, if any portion of the procedure is superseded, retain the superseded material for three years after each change.

(ii) Provision for written approval of these procedures and any revisions to the procedures by the individual with overall responsibility for the security functions. The licensee shall retain each written approval as a record for three years from the date of the approval.

(4)(i) The licensee may not permit an individual to act as a guard, watchman armed response person, or other member of the security organization unless the individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with appendix B, "General Criteria for Security Personnel," to this part. Upon the request of an authorized representative of the Commission, the licensee shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, and other member of the security organization shall requalify in accordance with appendix B to this part at least every 12 months. This requalification must be documented. The licensee shall retain the documentation of each requalification as a record for three years after the requalification.

(ii) Each licensee shall submit a training and qualifications plan outlining the processes by which guards, watchmen, armed response persons, and other members of the security organization will be selected, trained, equipped, tested, and qualified to ensure that these individuals meet the requirements of this paragraph. The licensee shall maintain a current copy of the training and qualifications plan as a record until the Commission terminates each license for which the plan was developed and, if any portion of the plan is superseded, retain the material that is superseded for three years after each change. The training and qualifications plan must include a schedule to show how all security personnel will be qualified two years after the submitted plan is approved. The training and qualifications plan must be followed by the licensee 60 days after the submitted plan is approved by the NRC.

(c) *Physical barriers.* (1) The licensee shall locate vital equipment only within a vital area, which in turn, shall be located within a protected area such that access to vital equipment requires passage through at least two physical barriers of sufficient strength to meet the performance requirements of paragraph (a) of this section. More than one vital area may be located within a single protected area.

(2) The physical barriers at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier for a vital area within the protected area.

(3) Isolation zones shall be maintained in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and shall be of sufficient size to permit observation of the activities of people on either side of that barrier in the event of its penetration. If parking facilities are provided for employees or visitors, they shall be located outside the isolation zone and exterior to the protected area barrier.

(4) Detection of penetration or attempted penetration of the protected area or the isolation zone adjacent to the protected area barrier shall assure that adequate response by the security organization can be initiated. All exterior areas within the protected area shall be periodically checked to detect the presence of unauthorized persons, vehicles, or materials.

(5) Isolation zones and all exterior areas within the protected area shall be provided with illumination sufficient for the monitoring and observation requirements of paragraphs (c)(3), (c)(4), and (h)(4) of this section, but not less than 0.2 footcandle measured horizontally at ground level.

(6) The walls, doors, ceiling, floor, and any windows in the walls and in the doors of the reactor control room shall be bullet-resisting.

(d) *Access Requirements.* (1) The licensee shall control all points of personnel and vehicle access into a protected area. Identification and search of all individuals unless otherwise provided herein must be made and authorization must be checked at these points. The search function for detection of firearms, explosives, and incendiary devices must be accomplished through the use of both firearms and explosive detection equipment capable of detecting those devices. The licensee must subject all persons except bona fide Federal, State, and local law enforcement personnel on official duty to these equipment searches upon entry into a protected area. When the licensee has cause to suspect that an individual is attempting to introduce firearms, explosives, or incendiary devices into protected areas, the licensee shall conduct a physical pat-down search of that individual. Whenever firearms or explosives detection equipment at a portal is out of service or not operating satisfactorily, the licensee shall conduct a physical pat-down search of all persons who would otherwise have been subject to equipment searches. The individual responsible for the last access control function (controlling admission to the protected area) must be isolated within a bullet-resisting structure as described in paragraph (c)(6) of this section to assure his or her ability to respond or to summon assistance. By Dec. 2, 1986 each licensee shall submit revisions to its security plan which define how the final search requirements of this paragraph will be met. The final search requirements of this package must be implemented by the licensee within 60 days after Commission approval of the proposed security plan revisions.

(2) At the point of personnel and vehicle access into a protected area, all hand-carried packages shall be searched for devices such as firearms, explosives, and incendiary devices, or other items which could be used for radiological sabotage.

(3) All packages and material for delivery into the protected area shall be checked for proper identification and authorization and searched for devices such as firearms, explosives and incen-

diary devices or other items which could be used for radiological sabotage, prior to admittance into the protected area, except those Commission approved delivery and inspection activities specifically designated by the licensee to be carried out within vital or protected areas for reasons of safety, security or operational necessity.

(4) All vehicles, except under emergency conditions, shall be searched for items which could be used for sabotage purposes prior to entry into the protected area. Vehicle areas to be searched shall include the cab, engine compartment, undercarriage, and cargo area. All vehicles, except designated licensee vehicles, requiring entry into the protected area shall be escorted by a member of the security organization while within the protected area and, to the extent practicable, shall be off loaded in the protected area at a specific designated materials receiving area that is not adjacent to a vital area. Designated licensee vehicles shall be limited in their use to onsite plant functions and shall remain in the protected area except for operational, maintenance, repair security and emergency purposes. The licensee shall exercise positive control over all such designated vehicles to assure that they are used only by authorized persons and for authorized purposes.

(5) A numbered picture badge identification system shall be used for all individuals who are authorized access to protected areas without escort. An individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area which must be returned upon exit from the protected area and which indicates: (i) Non-employee-no escort required, (ii) areas to which access is authorized and (iii) the period for which access has been authorized. Badges shall be displayed by all individuals while inside the protected area.

(6) Individuals not authorized by the licensee to enter protected areas without escort shall be escorted by a watchman or other individual designated by the licensee while in a protected area and shall be badged to indicate that an escort is required. In addition, the licensee shall require that each individual register his or her name, date, time, purpose of visit, employment affiliation, citizenship, and name of the individual to be visited. The licensee shall retain the register of information for three years after the last entry in the register.

(7) The licensee shall:

(i) Establish an access authorization system to limit unescorted access to vital areas during nonemergency conditions to individuals who require access in order to perform their duties. To achieve this, the licensee shall:

(A) Establish current authorization access lists for each vital area. The access lists must be updated and reapproved by the cognizant licensee manager or supervisor at least once every 31 days. The licensee shall include on the access list only individuals whose specific duties require access to vital areas during nonemergency conditions.

(B) Positively control, in accordance with the access list established pursuant to paragraph (d)(7)(i) of this section, all points of personnel and vehicle access to vital areas.

(C) Revoke, in the case of an individual's involuntary termination for cause, the individual's unescorted facility access and retrieve his or her identification badge and other entry devices, as applicable, prior to or simultaneously with notifying this individual of his or her termination.

(D) Lock and protect by an activated intrusion alarm system all unoccupied vital areas.

(ii) Design the access authorization system to accommodate the potential need for rapid ingress or egress of individuals during emergency conditions or situations that could lead to emergency conditions. To help assure this, the licensee shall:

(A) Ensure prompt access to vital equipment.

(B) Periodically review physical security plans and contingency plans and procedures to evaluate their potential impact on plant and personnel safety.

(8) Access to the reactor containment shall be through doors or hatches which shall be alarmed and have locks of substantial construction to offer penetration resistance and impede both surreptitious and forced entry. Any time frequent access is permitted to containment such as during refueling or major maintenance, positive access control to assure that only authorized personnel and materials are permitted into the containment shall be exercised by the licensee, with a guard or watchmen.

(9) All keys, locks, combinations, and related access control devices used to control access to protected areas and vital areas must be controlled to reduce the probability of compromise. All such keys, locks, combinations, and related access control devices must be changed or rotated at least every 12 months. Whenever there is evidence or suspicion that any key, lock, combination, or related access control devices may have been compromised, it must be changed or rotated. The licensee shall issue keys, locks, combinations, and other access control devices to protected areas and vital areas only to persons granted unescorted facility access. Whenever an individual's unescorted access is revoked due to his or her lack of trustworthiness, reliability, or inadequate work performance, keys, locks, combinations, and related access control devices to which that person had access must be changed or rotated.

(e) *Detection aids.* (1) All alarms required pursuant to this part must annunciate in a continuously manned central alarm station located within the protected area and in at least one other continuously manned station not necessarily onsite, so that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm. The onsite central alarm station must be considered a vital area and its walls, doors, ceiling, floor, and any windows in the walls and in the doors must be bullet-resisting. The onsite central alarm station must be located within a building in such a manner that the interior of the central alarm station is not visible from the perimeter of the protected area. This station must not contain any operational activities that would interfere with the execution of the alarm response function. Onsite secondary power supply systems for alarm annunciator equipment and non-portable communications equipment as required in paragraph (f) of this section must be located within vital areas.

(2) All alarm devices including transmission lines to annunciators shall be tamper indicating and self-checking e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when the system is on standby power. The annunciation of an alarm at the alarm stations shall indicate the type of alarm (e.g., intrusion alarms, emergency exit alarm, etc.) and location.

(3) All emergency exits in each protected area and each vital area shall be alarmed.

(f) *Communication requirements.* (1) Each guard, watchman or armed response individual on duty shall be capable of maintaining continuous communication with an individual in each continuously manned alarm station required by paragraph (e)(1) of this section, who shall be capable of calling for assistance from other guards, watchmen, and armed response personnel and from local law enforcement authorities.

(2) The alarm stations required by paragraph (e)(1) of this section shall have conventional telephone service for communication with the law enforcement authorities as described in paragraph (f)(1) of this section.

(3) To provide the capability of continuous communication, radio or microwave transmitted two-way voice communication, either directly or through an intermediary, shall be established, in addition to conventional telephone service, between local law enforcement authorities and the facility and shall terminate in each continuously manned alarm station required by paragraph (e)(1) of this section.

(4) Non-portable communications equipment controlled by the licensee and required by this section shall remain operable from independent power sources in the event of the loss of normal power.

(g) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment utilized pursuant to this section as follows:

(1) All alarms, communication equipment, physical barriers, and other security related devices or equipment shall be maintained in operable condition. The licensee shall develop and employ compensatory measures including equipment, additional security personnel and specific procedures to assure that the effectiveness of the security system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures.

(2) Each intrusion alarm shall be tested for performance at the beginning and end of any period that it is used for security. If the period of continuous use is longer than seven days, the intrusion alarm shall also be tested at least once every seven (7) days.

(3) Communications equipment required for communications onsite shall be tested for performance not less frequently than once at the beginning of each security personnel work shift. Communications equipment required for communications offsite shall be tested for performance not less than once a day.

(4) The security program shall be reviewed at least every 12 months by individuals independent of both security management and security supervision. The review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program and an audit of commitments established for response by local law enforcement authorities. The results of the review audit and evaluation along with recommendations for corrections and improvements, if any, shall be documented, reported to the licensee's plant management and to corporate management at least one level higher than that having responsibility for the day to day plant operation. The reports shall be kept available at the plant for inspection for a period of five years.

(h) *Response requirement.* (1) The licensee shall execute, when appropriate, a safeguards contingency plan for dealing with threats, thefts and radiological sabotage related to the nuclear facilities subject to the provisions of this section. Safeguards contingency plans shall be in accordance with the criteria in appendix C to this part, "Licensee Safeguards Contingency Plans."

(2) The licensee shall establish and document liaison with local law enforcement authorities. The licensee shall retain documentation of the current liaison as a record until the Commission terminates each license for which the liaison was developed and, if any portion of the liaison documentation is superseded, retain the superseded material for three years after each change.

(3) The total number of guards, and armed, trained personnel immediately available at the facility to fulfill these response requirements shall nominally be ten (10), unless specifically required otherwise on a case by case basis by the Commission; however, this number may not be reduced to less than five (5) guards.

(4) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, material access area, or a vital area; or upon evidence or indication of intrusion into a protected area, a material access area, or a vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responding guards or other armed response personnel to interpose themselves between vital areas and material access areas and any adversary attempting entry for the purpose of radiological sabotage or theft of special nuclear material and to intercept any person exiting with special nuclear material, and,

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(5) The licensee shall instruct every guard and all armed response personnel to prevent or impede attempted acts of theft or radiological sabotage by using force sufficient to counter the force directed at him including the use of deadly force when the guard or other armed response person has a reasonable belief it is necessary in self-defense or in the defense of others.

(6) To facilitate initial response to detection of penetration of the protected area and assessment of the existence of a threat, a capability of observing the isolation zones and the physical barrier at the perimeter of the protected area shall be provided, preferably by means of closed circuit television or by other suitable means which limit exposure of responding personnel to possible attack.

(Sec. 161i, Pub. L. 83-703, 68 Stat. 948, Pub. L. 93-377, 88 Stat. 475; secs. 201, 204(b)(1), Pub. L. 93-438, 88 Stat. 1242-1243, 1245, Pub. L. 94-79, 89 Stat. 413 (42 U.S.C. 2201, 5841))

[42 FR 10838, Feb. 24, 1977, as amended at 42 FR 51607, Sept. 29, 1977; 43 FR 11965, Mar. 23, 1978; 43 FR 34766, Aug. 7, 1978; 44 FR 65970, Nov. 16, 1979; 44 FR 68198, Nov. 28, 1979; 45 FR 79410, Dec. 1, 1980; 45 FR 83196, Dec. 18, 1980; 51 FR 27821, 27825, Aug. 4, 1986; 51 FR 30054, Aug. 22, 1986; 52 FR 12365, Apr. 16, 1987; 53 FR 19259, May 27, 1988]

§ 73.57 Requirements for criminal history checks of individuals granted unescorted access to a nuclear power facility or access to Safeguards Information by power reactor licensees.

(a) *General.* (1) Each licensee who is authorized to operate a nuclear power reactor under part 50 shall comply with the requirements of this section.

(2) Each applicant for a license to operate a nuclear power reactor pursuant to part 50 of this chapter shall submit fingerprint cards for those individuals who have or will have access to Safeguards Information.

(3) Each applicant for a license to operate a nuclear power reactor pursuant to part 50 of this chapter may submit fingerprint cards prior to receiving its operating license for those individuals who will require unescorted access to the nuclear power facility.

(b) *General performance objective and requirements.* (1) Except those listed in paragraph (b)(2) of this section, each licensee subject to the provisions of this section shall fingerprint each individual who is permitted unescorted access to the nuclear power facility or access to Safeguards Information. Individuals who have unescorted access authorization on April 1, 1987 will retain such access pending licensee receipt of the results of the criminal history check on the individual's fingerprints, so long as the cards were submitted by September 28, 1987. The licensee will then review and use the information received from the Federal Bureau of Investigation (FBI), and based on the provisions contained in this rule, determine either to continue to grant or to deny further unescorted access to the facility or Safeguards Information for that individual. Individuals who do not have unescorted access or access to Safeguards Information after April 1, 1987 shall be fingerprinted by the licensee and the results of the criminal history records check shall be used prior to making a determination for granting unescorted access to the nuclear power facility or access to Safeguards Information.

(2) Licensees need not fingerprint in accordance with the requirements of this section for the following categories:

(i) For unescorted access to the nuclear power facility or for access to Safeguards Information (but must adhere to provisions contained in § 73.21): NRC employees and NRC contractors on official agency business; individuals responding to a site emergency in accordance with the provisions of § 73.55(a); a representative of the International Atomic Energy Agency (IAEA) engaged in activities associated with the U.S./IAEA Safeguards Agreement at designated facilities who has been certified by the NRC; law enforcement personnel acting in an official capacity; State or local government employees who have had equivalent reviews of FBI criminal history data; and individuals employed at a facility who possess "Q" or "L" clearances or possess another active government granted security clearance, i.e., Top Secret, Secret, or Confidential;

(ii) For access to Safeguards Information only but must adhere to provisions contained in § 73.21: Employees of other agencies of the United States Government; a member of a duly authorized committee of the Congress; the Governor of a State or his/her designated representative; individuals to whom disclosure is ordered pursuant to § 2.744(e);

(iii) Any licensee currently processing criminal history requests through the FBI pursuant to Executive Order 10450 need not also submit such requests to the NRC under this section; and

(iv) When a nuclear power plant is in cold shutdown during refueling or major maintenance, the requirements of this rule may be waived for devitalized areas.

(v) Upon further notice to licensees and without further rulemaking, the Commission may waive certain requirements of this section on a temporary basis for temporary workers.

(3) The licensee shall notify each affected individual that the fingerprints will be used to secure a review of his/her criminal history record, and inform the individual of proper procedures for revising the record or including explanation in the record.

(4) Fingerprinting is not required if the utility is reinstating the unescorted access to the nuclear power facility or access to Safeguards Information granted an individual if:

(i) The individual returns to the same nuclear power utility that granted access and such access has not been interrupted for a continuous period of more than 365 days; and

(ii) The previous access was terminated under favorable conditions.

(5) Fingerprints need not be taken, in the discretion of the licensee, if an individual who is an employee of a licensee, contractor, manufacturer, or supplier has been granted unescorted access to a nuclear power facility or to Safeguards Information by another licensee, based in part on a criminal history records check under this section. The criminal history check file may be transferred to the gaining licensee in accordance with the provisions of paragraph (f)(3) of this section.

(6) All fingerprints obtained by the licensee under this section must be submitted to the Attorney General of the United States through the Commission.

(7) The licensee shall review the information received from the Attorney General and consider it in making a determination for granting unescorted access to the individual or access to Safeguards Information.

(8) A licensee shall use the information obtained as part of a criminal history records check solely for the purpose of determining an individual's suitability for unescorted access to the nuclear power facility or access to Safeguards Information.

(c) *Prohibitions.* (1) A licensee may not base a final determination to deny an individual unescorted access to the nuclear power facility or access to Safeguards Information solely on the basis of information received from the FBI involving:

(i) An arrest more than 1 year old for which there is no information of the disposition of the case; or

(ii) An arrest that resulted in dismissal of the charge or an acquittal.

(2) A licensee may not use information received from a criminal history check obtained under this section in a manner that would infringe upon the rights of any individual under the First Amendment to the Constitution of the United States, nor shall the licensee use the information in any way which would discriminate among individuals on the basis of race, religion, national origin, sex, or age.

(d) *Procedures for processing of fingerprint checks.* (1) For the purpose of complying with this section, licensees shall submit one completed, legible standard fingerprint card (Form FD-258, ORIMDNRCOOOZ, NRC Division of Security, Bethesda, MD) which may be obtained from the NRC for each individual requiring unescorted access to the nuclear power facility or access to Safeguards Information to the Director, Division of Security, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Criminal History Check Section. Copies of these forms may be obtained by writing to: Records and Reports Management Branch, Division of Information Support Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee shall establish procedures to ensure that the quality of the fingerprints taken results in minimizing the rejection rate of fingerprint cards due to illegible or incomplete cards.

(2) The Commission will review applications for criminal history checks for completeness. Any Form FD-258 containing omissions or evident errors will be returned to the licensee for corrections. No additional fee will be charged for fingerprint cards needed to replace returned incomplete or illegible fingerprint cards if the original fingerprint card is attached to the resubmittal or a note is attached indicating that the previously submitted card had been incomplete.

(3) Fees for the processing of fingerprint checks are due upon application. Licensees shall submit payment with the application for the processing of fingerprints through corporate check, certified check, cashier's check, or money order made payable to "U.S. NRC," at the rate of $23.00 for each card. Combined payment for multiple applications is acceptable.

(4) The Commission will forward to the submitting licensee all data received from the FBI as a result of the licensee's application(s) for criminal history checks, including the individual's fingerprint card.

(e) *Right to correct and complete information.* (1) Prior to any final adverse determination, the licensee shall make available to the individual the contents of records obtained from the FBI for the purpose of assuring correct and complete information. Confirmation of receipt by the individual of this notification must be maintained by the licensee for a period of 1 year from the date of the notification.

(2) If after reviewing the record, an individual believes that it is incorrect or incomplete in any respect and wishes changes, corrections, or updating (of the alleged deficiency), or to explain any matter in the record, the individual may initiate challenge procedures. These procedures include direct application by the individual challenging the record to the agency, i.e., law enforcement agency, that contributed the questioned information or direct challenge as to the accuracy or completeness of any entry on the criminal history record to the Assistant Director, Federal Bureau of Investigation Identification Division, Washington, DC 20537-9700 as set forth in 28 CFR 16.30 through 16.34. In the latter case, the FBI then forwards the challenge to the agency that submitted the data requesting that agency to verify or correct the challenged entry. Upon receipt of an official communication directly from the agency that contributed the original information, the FBI Identification Division makes any changes necessary in accordance with the information supplied by that agency. Licensees must provide at least 10 days for an individual to initiate action to challenge the results of an FBI criminal history records check after the record being made available for his/her review. The licensee may make a final adverse determination based upon the criminal history record, if applicable, only upon receipt of the FBI's confirmation or correction of the record.

(f) *Protection of information.* (1) Each licensee who obtains a criminal history record on an individual under this section shall establish and maintain a system of files and procedures for protection of the record and the personal information from unauthorized disclosure.

(2) The licensee may not disclose the record or personal information collected and maintained to persons other than the subject individual, his/her representative, or to those who have a need to have access to the information in performing assigned duties in the process of granting or denying unescorted access to the nuclear power facility or access to Safeguards Information. No individual authorized to have access to the information may re-disseminate the information to any other individual who does not have a need to know.

(3) The personal information obtained on an individual from a criminal history record check may be transferred to another licensee:

(i) Upon the individual's written request to the licensee holding the data to re-disseminate the information contained in his/her file; and

(ii) The gaining licensee verifies information such as name, date of birth, social security number, sex, and other applicable physical characteristics for identification.

(4) The licensee shall make criminal history records obtained under this section available for examination by an authorized representative of the NRC to determine compliance with the regulations and laws.

(5) The licensee shall retain all fingerprint cards and criminal history records received from the FBI, or a copy if the individual's file has been transferred, on an individual (including data indicating no record) for 1 year after termination or denial of unescorted access to the nuclear power facility or access to Safeguards Information.

[52 FR 6314, Mar. 2, 1987; 52 FR 7821, Mar. 13, 1987, as amended at 53 FR 52994, Dec. 30, 1988; 55 FR 35563, Aug. 31, 1990]

§ 73.60 Additional requirements for the physical protection of special nuclear material at non-power reactors.

Each non-power reactor licensee who, pursuant to the requirements of part 70 of this chapter, possesses at any site or contiguous sites subject to control by the licensee uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium alone or in any combination in a quantity of 5,000 grams or more computed by the formula, grams=(grams contained in U-235)+2.5 (grams U-233+grams plutonium) shall protect the special nuclear material from theft or diversion pursuant to the requirements of § 73.67 (a), (b), (c), and (d) and as follows, except that a licensee is exempt from the requirements of this section to the extent that he possesses or uses special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of three feet from any accessible surface without intervening shielding.

(a) *Access requirements.* (1) Special nuclear material shall be stored or processed only in a material access area. No activities other than those which require access to special nuclear material or equipment employed in the process, use, or storage of special nuclear material, shall be permitted within a material access area.

(2) Material access areas shall be located only within a protected area to which access is controlled.

(3) Special nuclear material not in process shall be stored in a vault equipped with an intrusion alarm or in a vault-type room, and each such vault or vault-type room shall be controlled as a separate material access area.

(4) Enriched uranium scrap in the form of small pieces, cuttings, chips, solutions or in other forms which result from a manufacturing process, contained in 30-gallon or larger containers, with a uranium-235 content of less than 0.25 grams per liter, may be stored within a locked and separately fenced area which is within a larger protected area provided that the storage area is no closer than 25 feet to the perimeter of the protected area. The storage area when unoccupied shall be protected by a guard or watchman who shall patrol at intervals not exceeding 4 hours, or by intrusion alarms.

(5) Admittance to a material access area shall be under the control of authorized individuals and limited to individuals who require such access to perform their duties.

(6) Prior to entry into a material access area, packages shall be searched for devices such as firearms, explosives, incendiary devices, or counterfeit substitute items which could be used for theft or diversion of special nuclear material.

(7) Methods to observe individuals within material access areas to assure that special nuclear material is not diverted shall be provided and used on a continuing basis.

(b) *Exit requirement.* Each individual, package, and vehicle shall be searched for concealed special nuclear material before exiting from a material access area unless exit is into a contiguous material access area. The search may be carried out by a physical search or by use of equipment capable of detecting the presence of concealed special nuclear material.

(c) *Detection aid requirement.* Each unoccupied material access area shall be locked and protected by an intrusion alarm on active status. All emergency exits shall be continuously alarmed.

(d) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, physical barriers, and other devices utilized pursuant to the requirements of this section as follows:

(1) Intrusion alarms, physical barriers, and other devices used for material protection shall be maintained in operable condition.

(2) Each intrusion alarm shall be inspected and tested for operability and required functional performance at the beginning and end of each interval during which it is used for material protection, but not less frequently than once every seven (7) days.

(e) This section is effective March 6, 1974.

[38 FR 35430, Dec. 28, 1973, as amended at 44 FR 68199, Nov. 28, 1979]

Physical Protection of Special Nuclear Material of Moderate and Low Strategic Significance

§ 73.67 Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance.

(a) *General performance objectives.* (1) Each licensee who possesses, uses or transports special nuclear material of moderate or low strategic significance shall establish and maintain a physical protection system that will achieve the following objectives:

(i) Minimize the possibilities for unauthorized removal of special nuclear material consistent with the potential consequences of such actions; and

(ii) Facilitate the location and recovery of missing special nuclear material.

(2) To achieve these objectives, the physical protection system shall provide:

(i) Early detection and assessment of unauthorized access or activities by an external adversary within the controlled access area containing special nuclear material;

(ii) Early detection of removal of special nuclear material by an external adversary from a controlled access area;

(iii) Assure proper placement and transfer of custody of special nuclear material; and

(iv) Respond to indications of an unauthorized removal of special nuclear material and then notify the appropriate response forces of its removal in order to facilitate its recovery.

(b)(1) A licensee is exempt from the requirements of this section to the extent that he possesses, uses, or transports: (i) Special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding, or

(ii) Sealed plutonium-beryllium neutron sources totaling 500 grams or less contained plutonium at any one site or contiguous sites, or

(iii) Plutonium with an isotopic concentration exceeding 80 percent in plutonium-238.

(2) A licensee who has quantities of special nuclear material equivalent to special nuclear material of moderate strategic significance distributed over several buildings may, for each building which contains a quantity of special nuclear material less than or equal to a level of special nuclear material of low strategic significance, protect the material in that building under the lower classification physical security requirements.

(c) Each licensee who possesses, uses, transports or who delivers to a carrier for transport special nuclear material of moderate strategic significance or 10 kg or more of special nuclear material of low strategic significance shall:

(1) Submit a security plan or an amended security plan describing how the licensee will comply with all the requirements of paragraphs (d), (e), (f), and (g) of this section, as appropriate, including schedules of implementation. The licensee shall retain a copy of the effective security plan as a record for three years after the close of period for which the licensee pos-

sesses the special nuclear material under each license for which the original plan was submitted. Copies of superseded material must be retained for three years after each change.

(2) Within 300 days after the effective date of these amendments (March 25, 1980) or 30 days after the plan(s) submitted pursuant to paragraph (c)(1) of this section is approved, whichever is later, implement the approved security plan.

(d) *Fixed site requirements for special nuclear material of moderate strategic significance.* Each licensee who possesses, stores, or uses quantities and types of special nuclear material of moderate strategic significance at fixed sites, except those who are licensed to operate a nuclear power reactor pursuant to part 50, shall:

(1) Use the material only within a controlled access area which is illuminated sufficiently to allow detection and surveillance of unauthorized penetration or activities,

(2) Store the material only within a controlled access area such as a vault-type room or approved security cabinet or their equivalent which is illuminated sufficiently to allow detection and surveillance of unauthorized penetration or activities,

(3) Monitor with an intrusion alarm or other device or procedures the controlled access areas to detect unauthorized penetration or activities,

(4) Conduct screening prior to granting an individual unescorted access to the controlled access area where the material is used or stored, in order to obtain information on which to base a decision to permit such access,

(5) Develop and maintain a controlled badging and lock system to identify and limit access to the controlled access areas to authorized individuals,

(6) Limit access to the controlled access areas to authorized or escorted individuals who require such access in order to perform their duties,

(7) Assure that all visitors to the controlled access areas are under the constant escort of an individual who has been authorized access to the area,

(8) Establish a security organization or modify the current security organization to consist of at least one watchman per shift able to assess and respond to any unauthorized penetrations or activities in the controlled access areas,

(9) Provide a communication capability between the security organization and appropriate response force,

(10) Search on a random basis vehicles and packages leaving the controlled access areas, and

(11) Establish and maintain written response procedures for dealing with threats of thefts or thefts of these materials. The licensee shall retain a copy of the response procedures as a record for the period during which the licensee possesses the appropriate type and quantity of special nuclear material requiring this record under each license for which the original procedures were developed and, for three years thereafter. Copies of superseded material must be retained for three years after each change.

(e) *In-transit requirements for special nuclear material of moderate strategic significance.* (1) Each licensee who transports, exports or delivers to a carrier for transport special nuclear material of moderate strategic significance shall:

(i) Provide advance notification to the receiver of any planned shipments specifying the mode of transport, estimated time of arrival, location of the nuclear material transfer point, name of carrier and transport identification,

(ii) Receive confirmation from the receiver prior to the commencement of the planned shipment that the receiver will be ready to accept the shipment at the planned time and location and acknowledges the specified mode of transport,

(iii) Check the integrity of the container and locks or seals prior to shipment, and

(iv) Arrange for the in-transit physical protection of the materials in accordance with the requirements of § 73.67(e)(3) unless the receiver is a licensee and has agreed in writing to arrange for the in-transit physical protection.

(2) Each licensee who receives special nuclear material of moderate strategic significance shall:

(i) Check the integrity of the containers and seals upon receipt of the shipment,

(ii) Notify the shipper of receipt of the material as required in § 70.54 of this chapter, and

(iii) Arrange for the in-transit physical protection of the material in accordance with the requirements of § 73.67(e)(3) unless the shipper is a licensee and has agreed in writing to arrange for the in-transit physical protection.

(3) Each licensee who arranges for the in-transit physical protection of special nuclear material of moderate strategic significance, or who takes delivery of this material free on board (f.o.b.) the point at which it is delivered to a carrier for transport shall:

(i) Arrange for telephone or radio communications between the transport and the licensee or its designee: (A) To periodically confirm the status of the shipment (B) for notification of any delays in the scheduled shipment, and (C) to request appropriate local law enforcement agency response in the event of an emergency.

(ii) Minimize the time that the material is in transit by reducing the number and duration of nuclear material transfers and by routing the material in the most safe and direct manner.

(iii) Conduct screening of all licensee employees involved in the transportation of the material in order to obtain information on which to base a decision to permit them control over the material,

(iv) Establish and maintain written response procedures for dealing with threats of thefts or thefts of this material. The licensee shall retain a copy of the current response procedures as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the original procedures were developed and copies of superseded material must be retained for three years after each change.

(v) Make arrangements to be notified immediately of the arrival of the shipment at its destination, or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination, and

(vi) Initiate immediately a trace investigation of any shipment that is determined to be lost or unaccounted for after a reasonable time beyond the estimated arrival time.

(vii) Notify the NRC Operations Center [1] within one hour after the discovery of the loss of the shipment and within one hour after recovery of or accounting for such lost shipment in accordance with the provisions of § 73.71 of this part.

(4) Each licensee who arranges the physical protection of strategic special nuclear material in quantities of moderate strategic significance while in transit or who takes delivery of this material free on board (f.o.b.) the point at which it is delivered to a carrier for transport shall comply with the requirements of paragraphs (e)(1), (2), and (3) of this section. The licensee shall retain each record required by paragraphs (e)(1), (2), (3), and (4)(i) and (ii) of this section for three years after close of period licensee possesses special nuclear material under each license that authorizes these licensee activities. Copies of superseded material must be retained for three years after each change. In addition, the licensee shall—

(i) Make all shipments of the material either (A) in dedicated transports with no intermediate stops to load or unload other cargo and with no carrier or vehicle transfers or temporary storage in-transit, or (B) under arrangements whereby the custody of the shipment and all custody transfers are acknowledged by signature, and

(ii) Maintain the material under lock or under the control of an individual who has acknowledged acceptance of custody of the material by signature.

(5) Each licensee who exports special nuclear material of moderate strategic significance shall comply with the requirements specified in paragraphs (c) and (e)(1), (3), and (4) of this section. The licensee shall retain each record required by these sections for three years after the close of period for

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[1] Commercial telephone number of the NRC Operations Center is (301)951-0550.

which the licensee possesses the special nuclear material under each license that authorizes the licensee to export this material. Copies of superseded material must be retained for three years after each change.

(6) Each licensee who imports special nuclear material of moderate strategic significance shall,

(i) Comply with the requirements specified in paragraphs (c) and (e)(2), (3), and (4) of this section. The licensee shall retain each record required by these sections for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the licensee to import this material. Copies of superseded material must be retained for three years after each change.

(ii) Notify the exporter who delivered the material to a carrier for transport of the arrival of such material.

(7) If, after receiving advance notice pursuant to § 73.72 from a licensee planning to import, export, transport, deliver to a carrier for transport in a single shipment, or take delivery at the point where it is delivered to a carrier, special nuclear material of moderate strategic significance containing in any part strategic special nuclear material, it appears to the Commission that two or more shipments of special nuclear material of moderate strategic significance, constituting in the aggregate an amount equal to or greater than a formula quantity of strategic special nuclear material, may be en route at the same time, the Commission may order one or more of the shippers to delay shipment according to the following provisions:

(i) The shipper shall provide to the Commission, upon request, such additional information regarding a planned shipment as the Commission considers pertinent to the decision on whether to delay such shipment.

(ii) The receiver of each shipment, or the shipper if the receiver is not a licensee, shall notify the Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A by telephone, no later than 24 hours after arrival of such shipment at its final destination, or after such shipment has left the United States as an export, to confirm the integrity of the shipment at the time of receipt or exit from the United States.

(iii) The Commission shall notify the affected shippers no later than two days before the scheduled shipment date that a given shipment is to be delayed.

(iv) Shipments of special nuclear material of moderate strategic significance which are protected in accordance with the provisions of §§ 73.20, 73.25, and 73.26 shall not be subject to orders to delay shipment nor considered to constitute a portion of an aggregate formula quantity of strategic special nuclear material for the purposes of determining whether any shipments must delayed.

(f) *Fixed site requirements for special nuclear material of low strategic significance.* Each licensee who possesses or uses special nuclear material of low strategic significance at fixed sites, except those who are licensed to operate a nuclear power reactor pursuant to part 50, shall:

(1) Store or use the material only within a controlled access area,

(2) Monitor with an intrusion alarm or other device or procedures the controlled access areas to detect unauthorized penetrations or activities,

(3) Assure that a watchman or offsite response force will respond to all unauthorized penetrations or activities, and

(4) Establish and maintain response procedures for dealing with threats of thefts or thefts of this material. The licensee shall retain a copy of the current response procedures as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the procedures were established. Copies of superseded material must be retained for three years after each change.

(g) *In-transit requirements for special nuclear material of low strategic significance.* (1) Each licensee who transports or who delivers to a carrier for transport special nuclear material of low strategic significance shall:

(i) Provide advance notification to the receiver of any planned shipments specifying the mode of transport, estimated time of arrival, location of the nuclear material transfer point, name of carrier and transport identification,

(ii) Receive confirmation from the receiver prior to commencement of the planned shipment that the receiver will be ready to accept the shipment at the planned time and location and acknowledges the specified mode of transport,

(iii) Transport the material in a tamper indicating sealed container,

(iv) Check the integrity of the containers and seals prior to shipment, and

(v) Arrange for the in-transit physical protection of the material in accordance with the requirements of § 73.67(g)(3) of this part, unless the receiver is a licensee and has agreed in writing to arrange for the in-transit physical protection.

(2) Each licensee who receives quantities and types of special nuclear material of low strategic significance shall:

(i) Check the integrity of the containers and seals upon receipt of the shipment,

(ii) Notify the shipper of receipt of the material as required in § 70.54 of part 70 of this chapter, and

(iii) Arrange for the in-transit physical protection of the material in accordance with the requirements of § 73.67(g)(3) of this part, unless the shipper is a licensee and has agreed in writing to arrange for the in-transit physical protection.

(3) Each licensee, either shipper or receiver, who arranges for the physical protection of special nuclear material of low strategic significance while in transit or who takes delivery of such material free on board (f.o.b.) the point at which it is delivered to a carrier for transport shall:

(i) Establish and maintain response procedures for dealing with threats or thefts of this material. The licensee shall retain a copy of the current response procedures as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the procedures were established. Copies of superseded material must be retained for three years after each change.

(ii) Make arrangements to be notified immediately of the arrival of the shipment at its destination, or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination, and

(iii) Conduct immediately a trace investigation of any shipment that is lost or unaccounted for after the estimated arrival time and notify the NRC Operations Center[1] within one hour after the discovery of the loss of the shipment and within one hour after recovery of or accounting for such lost shipment in accordance with the provisions of § 73.71 of this part.

(4) Each licensee who exports special nuclear material of low strategic significance shall comply with the appropriate requirements specified in paragraphs (c) and (g) (1) and (3) of this section. The licensee shall retain each record required by these sections for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the licensee to export this material. Copies of superseded material must be retained for three years after each change.

(5) Each licensee who imports special nuclear material of low strategic significance shall:

(i) Comply with the requirements specified in paragraphs (c) and (g) (2) and (3) of this section and retain each record required by these paragraphs for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the licensee to import this material. Copies of superseded material must be retained for three years after each change.

(ii) Notify the person who delivered the material to a carrier for transport of the arrival of such material.

[44 FR 43283, July 24, 1979. Redesignated at 44 FR 68198, Nov. 28, 1979, and amended at 45 FR 19215, Mar. 25, 1980; 47 FR 19114, May 4, 1982; 52 FR 21657, June 9, 1987; 53 FR 19260, May 27, 1988]

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[1] Commercial telephone number of the NRC Operation Center is (301)951-0550.

RECORDS AND REPORTS

§ 73.70 Records.

Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records. Each licensee subject to the provisions of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.55, or 73.60 shall keep the following records:

(a) Names and addresses of all individuals who have been designated as authorized individuals. The licensee shall retain this record of currently designated authorized individuals for the period during which the licensee possesses the appropriate type and quantity of special nuclear material requiring this record under each license that authorizes the activity that is subject to the recordkeeping requirement and, for three years thereafter. Copies of superseded material must be retained for three years after each change.

(b) Names, addresses, and badge numbers of all individuals authorized to have access to vital equipment or special nuclear material, and the vital areas and material access areas to which authorization is granted. The licensee shall retain the record of individuals currently authorized this access for the period during which the licensee possesses the appropriate type and quantity of special nuclear material requiring this record under each license that authorizes the activity that is subject to the recordkeeping requirement and, for three years thereafter. Copies of superseded material must be retained for three years after each change.

(c) A register of visitors, vendors, and other individuals not employed by the licensee pursuant to §§ 73.46(d)(1), 73.55(d)(6), or § 73.60. The licensee shall retain this register as a record for three years after the last entry is made in the register.

(d) A log indicating name, badge number, time of entry, and time of exit of all individuals granted access to a vital area except those individuals entering or exiting the reactor control room. The licensee shall retain this log as a record for three years after the last entry is made in the log.

(e) Documentation of all routine security tours and inspections, and of all tests, inspections, and maintenance performed on physical barriers, intrusion alarms, communications equipment, and other security related equipment used pursuant to the requirements of this part. The licensee shall retain the documentation for these events for three years from the date of documenting each event.

(f) A record at each onsite alarm annunciation location of each alarm, false alarm, alarm check, and tamper indication that identifies the type of alarm, location, alarm circuit, date, and time. In addition, details of response by facility guards and watchmen to each alarm, intrusion, or other security incident shall be recorded. The license shall retain each record for three years after the record is made.

(g) Shipments of special nuclear material subject to the requirements of this part, including names of carriers, major roads to be used, flight numbers in the case of air shipments, dates and expected times of departure and arrival of shipments, vertification of communication equipment on board the transfer vehicle, names of individuals who are to communicate with the transport vehicle, container seal descriptions and identification, and any other information to confirm the means utilized to comply with §§ 73.25, 73.26, and 73.27. This information must be recorded prior to shipment. Information obtained during the course of the shipment such as reports of all communications, change of shipping plan, including monitor changes, trace investigations, and others must also be recorded. The licensee shall retain each record about a shipment required by this paragraph (g) for three years after the record is made.

(h) Procedures for controlling access to protected areas and for controlling access to keys for locks used to protect special nuclear material. The licensee shall retain a copy of the current procedures as a record until the Commission terminates each license for which the procedures were developed and, if any portion of the procedure is superseded, retain the superseded material for three years after each change.

[53 FR 19261, May 27, 1988]

§ 73.71 Reporting of safeguards events.

(a) (1) Each licensee subject to the provisions of §§ 73.25, 73.26, 73.27(c), 73.37, 73.67(e), or 73.67(g) shall notify the NRC Operations Center[1] within one hour after discovery of the loss of any shipment of SNM or spent fuel, and within one hour after recovery of or accounting for such lost shipment.

(2) This notification must be made to the NRC Operations Center via the Emergency Notification System, if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or other dedicated telephonic system or any other methods that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.21(g)(3) applies to all telephonic reports required by this section.

(3) The licensee shall, upon request to the NRC, maintain an open and continuous communication channel with the NRC Operations Center.

(4) The initial telephonic notification must be followed within a period of 30 days by a written report submitted to the U.S. Nuclear Regulatory Commission, Document Control Desk, Washington, DC 20555. The licensee shall also submit one copy to the appropriate NRC Regional Office listed in appendix A to this part. The report must include sufficient information for NRC analysis and evaluation.

(5) Significant supplemental information which becomes available after the initial telephonic notification to the NRC Operations Center or after the submission of the written report must be telephonically reported to the NRC Operations Center and also submitted in a revised written report (with the revisions indicated) to the Regional Office and the Document Control Desk. Errors discovered in a written report must be corrected in a revised report with revisions indicated. The revised report must replace the previous report; the update must be a complete entity and not contain only supplementary or revised information. Each licensee shall maintain a copy of the written report of an event submitted under this section as record for a period of three years from the date of the report.

(b)(1) Each licensee subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55, 73.60, or 73.67 shall notify the NRC Operations Center within one hour of discovery of the safeguards events described in paragraph I(a)(1) of appendix G to this part. Licensees subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55, 73.60 or each licensee possessing strategic special nuclear material (SSNM and subject to § 73.67(d) shall notify the NRC Operations Center within one hour after discovery of the safeguards events described in paragraphs I(a)(2), (a) (3), (b), and (c) of appendix G to this part. Licensees subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55 or 73.60 shall notify the NRC Operations Center within one hour after discovery of the safeguards events described in paragraph I(d) of appendix G to this part.

(2) This notification must be made in accordance with the requirements of paragraphs (a) (2), (3), (4), and (5) of this section.

(c) (1) Each license subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55, 73.60, or each licensee possessing SSNM and subject to the § 73.67(d) shall maintain a current log and record the safeguards events described in paragraphs II (a) and (b) of appendix G to this part within 24 hours of discovery by a licensee employee or member of the licensee's contract security organization. The licensee shall retain the log of events recorded under this section as a record for three years after the last entry is made in each log.

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[1] Commercial telephone number of the NRC Operation Center is (301)951-0550.

(2) Every three months, each licensee shall submit to the NRC copies of all safeguards event log entries not previously submitted. Each licensee shall submit one copy of their log entries to the U.S. Nuclear Regulatory Commission, Document Control Desk, Washington, DC 20555.

(d) Each licensee shall submit to the Commission the 30-day written reports and copies of the safeguards event log entries required under the provisions of this section that are of a quality which will permit legible reproduction and processing. If the facility is subject to § 50.73 of this chapter, the licensee shall prepare the written report of NRC Form 366. If the facility is not subject to § 50.73 of this chapter, the licensee shall not use this form but shall prepare the written report in letter format. The report must include sufficient information for NRC analysis and evaluation.

(e) Duplicate reports are not required for events that are also reportable in accordance with §§ 50.72 and 50.73 of this chapter.

[52 FR 21658, June 9, 1987; 52 FR 23257, June 18, 1987]

§ 73.72 Requirement for advance notice of shipment of formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance, or irradiated reactor fuel.

(a) A licensee, other than one specified in paragraph (b) of this section, who, in a single shipment, plans to deliver to a carrier for transport, to take delivery at the point where a shipment is delivered to a carrier for transport, to import, to export, or to transport a formula quantity of strategic special nuclear material, special nuclear material of moderate strategic significance, or irradiated reactor fuel required to be protected in accordance with § 73.37, shall:

(1) Notify in writing the Division of Safeguards and Transportation, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipping facility;

(3) Include the following information in the notification:

(i) The name(s), address(es), and telephone number(s) of the shipper, receiver, and carrier(s);

(ii) A physical description of the shipment:

(A) For a shipment other than irradiated fuel, the elements, isotopes, enrichment, and quantity;

(B) For a shipment of irradiated fuel, the physical form, quantity, type of reactor, and original enrichment;

(iii) A listing of the mode(s) of shipment, transfer point(s), and route(s) to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination;

(4) Notify the Division of Safeguards and Transportation by telephone at 301-492-3365 at least 10 days before the shipment commences at the shipping facility that an advance notice has been sent; and

(5) Notify the Division of Safeguards and Transportation by telephone at 301-492-3365 of any changes to the shipment itinerary.

(b) A licensee who makes a road shipment or transfer with one-way transit times of one hour or less in duration between installations of the licensee is exempt from the requirements of this section for that shipment or transfer.

[52 FR 9653, Mar. 26, 1987, as amended at 53 FR 4111, Feb. 12, 1988]

§ 73.73 Requirement for advance notice and protection of export shipments of special nuclear material of low strategic significance.

(a) A licensee authorized to export special nuclear material of low strategic significance shall:

(1) Notify in writing the Division of Safeguards and Transportation, U.S.

Nuclear Regulatory Commission, Washington, DC 20555;

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipper's facility;

(3) Include the following information in the notification:

(i) The name(s), address(es), and telephone number(s) of the shipper, receiver, and carrier(s);

(ii) A physical description of the shipment (the elements, isotopes, form, etc.);

(iii) A listing of the mode(s) of shipment, transfer points, and routes to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination;

(4) Assure that during transport outside the United States, the shipment will be protected in accordance with Annex I to the Convention on the Physical Protection of Nuclear Material (see appendix E of this part).

(b) A licensee who needs to amend a written advance notification required by paragraph (a) of this section may do so by telephoning the Division of Safeguards and Transportation at 301-492-3365.

[52 FR 9653, Mar. 26, 1987, as amended at 53 FR 4112, Feb. 12, 1988]

§ 73.74 Requirement for advance notice and protection of import shipments of nuclear material from countries that are not party to the Convention on the Physical Protection of Nuclear Material.

(a) A licensee authorized to import special nuclear material of low strategic significance from a country not a party to the Convention on the Physical Protection of Nuclear Material (i.e., not listed in appendix F of this part) shall:

(1) Notify in writing the Division of Safeguards and Transportation, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipper's facility; and

(3) Include the following information in the notification:

(i) The name(s), address(es) and telephone number(s) of the shipper, receiver, and carrier(s);

(ii) A physical description of the shipment (the isotopes, enrichment, quantity, etc.);

(iii) A listing of mode(s) of shipment, transfer points, and routes to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination.

(b) A licensee who needs to amend a written advance notification required by paragraph (a) of this section may do so by telephoning the Division of Safeguards and Transportation at 301-492-3365.

(c) A licensee authorized to import from a country not a party to the Convention on the Physical Protection of Nuclear Material (i.e., not listed in appendix F of this part) a formula quantity of special nuclear material, special nuclear material of moderate strategic significance, special nuclear material of low strategic significance, or irradiated reactor fuel shall assure that during transport outside the United States the shipment will be protected in accordance with Annex I to the Convention on the Physical Protection of Nuclear Material (see appendix E of this part).

[52 FR 9654, Mar. 26, 1987, as amended at 53 FR 4112, Feb. 12, 1988]

ENFORCEMENT

§ 73.80 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, 109, or 147 of the Act, or section 206 of the

Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

[46 FR 51725, Oct. 22, 1981]

APPENDIX A TO PART 73—U.S. NUCLEAR REGULATORY COMMISSION REGIONAL OFFICES

	Addresses	Telephone (24 hours)
NRC Operations Center (via NRC Operator)	USNRC, Office for Analysis and Evaluation of Operational Data, Washington, DC 20555.	(301) 492-7000 (FTS) 492-7000
Region I: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.	USNRC, 475 Allendale Road, King of Prussia, PA 19406.	(215) 337-5000 (FTS) 346-5000
Region II: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, Virgin Islands, and West Virginia.	USNRC, 101 Marietta Street, NW Suite 2900, Atlanta, GA 30323.	(404) 331-4503 (FTS) 242-4503
Region III: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.	USNRC, 799 Roosevelt Road, Glen Ellyn, IL 60137.	(708) 790-5500 (FTS) 388-5500
Region IV:[1] Arkansas, Colorado, Idaho, Kansas, Louisiana, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming.	USNRC, 611 Ryan Plaza Drive, Suite 1000, Arlington, TX 76011.	(817) 860-8100 (FTS) 728-8100
Region IV: Field Office	USNRC, Region IV Uranium Recovery Field Office, 730 Simms Street, P. O. Box 25325, Denver, CO 80225.	(30[illegible] 236-2805 (FTS) 776-2805
Region V: Alaska, Arizona, California, Hawaii, Nevada, Oregon, Pacific Trust Territories, and Washington.	USNRC, 1450 Maria Lane, Suite 210, Walnut Creek, CA 94596.	(415) 943-3700 (FTS) 463-3700

[1] For calls related to Material Control and Accounting matters, consult the following Regions: Arkansas—II, Colorado—V, Idaho—V, Kansas—III, Louisiana—II, Montana—V, Nebraska—III, New Mexico—V, North Dakota—III, Oklahoma—III, South Dakota—III, Texas—V, Utah—V, and Wyoming—V.

[49 FR 47824, Dec. 7, 1984, as amended at 50 FR 46631, Nov. 12, 1985; 51 FR 35500, Oct. 6, 1986; 52 FR 31613, Aug. 21, 1987; 53 FR 3863, Feb. 10, 1988; 54 FR 42288, Oct. 16, 1989]

APPENDIX B TO PART 73—GENERAL CRITERIA FOR SECURITY PERSONNEL

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INTRODUCTION

Pursuant to the provisions of §§ 73.50 and 73.55 of 10 CFR part 73, Requirements for Physical Protection of Plants and Materials, each licensee who is authorized to conduct certain activities with specified quantities of special nuclear material pursuant to 10 CFR part 70 and each licensee who is authorized to operate a production or utilization facility pursuant to 10 CFR part 50, respectively, is required to establish a security organization, including trained and equipped guards to physically protect special nuclear material in their possession and their facilities against theft and radiological sabotage.

Further, pursuant to the provisions of §§ 73.30 through 73.36 of 10 CFR part 73, certain shipments of special nuclear material are required to be accompanied by armed escorts.

Security personnel who are responsible for the protection of special nuclear material onsite and in transit and for the protection of the facility or shipment vehicle against radiological sabotage should, like other elements of the physical security system, be required to meet minimum criteria to assure that they will effectively perform their assigned security related job duties. In order to assure that those individuals responsible for security are properly equipped and qualified to execute the job duties prescribed for them, the NRC has developed general criteria which specifies security personnel qualification requirements.

These general criteria establish requirements for the selection, training, equipping, testing, and qualification of individuals who will be responsible for protecting special nuclear materials, nuclear facilities, and nuclear shipments.

DEFINITIONS

Terms defined in parts 50, 70, and 73 of this chapter have the same meaning when used in this appendix.

CRITERIA

I. Employment suitability and qualification.

A. Suitability: 1. Prior to employment, or assignment to the security organization, an individual shall meet the following suitability criteria:

a. Educational development—Possess a high school diploma or pass an equivalent performance examination designed to measure basic job-related mathematical, language, and reasoning skills, ability, and knowledge, required to perform security job duties.

b. Felony convictions—Have no felony convictions involving the use of a weapon and no felony convictions that reflect on the individual's reliability.

2. Prior to employment or assignment to the security organization in an armed capacity, the individual, in addition to (a) and (b) above, must be 21 years of age or older.

B. Physical and mental qualifications. 1. Physical qualifications:

a. Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall have no physical weaknesses or abnormalities that would adversely affect their performance of assigned security job duties.

b. In addition to a. above, guards, armed response personnel, armed escorts, and central alarm station operators shall successfully pass a physical examination administered by a licensed physician. The examination shall be designed to measure the individual's physical ability to perform assigned security job duties as identified in the licensee physical security and contingency plans. Armed personnel shall meet the following additional physical requirements:

(1) Vision: (a) For each individual, distant visual acuity in each eye shall be correctable to 20/30 (Snellen or equivalent) in the better eye and 20/40 in the other eye with eyeglasses or contact lenses. If uncorrected distance vision is not at least 20/40 in the better eye, the individual shall carry an extra pair of corrective lenses. Near visual acuity, corrected or uncorrected, shall be at least 20/40 in the better eye. Field of vision must be at least 70° horizontal meridian in each eye. The ability to distinguish red, green, and yellow colors is required. Loss of vision in one eye is disqualifying. Glaucoma shall be disqualifying, unless controlled by acceptable medical or surgical means, provided such medications as may be used for controlling glaucoma do not cause undesirable side effects which adversely affect the individual's ability to perform assigned security job duties, and provided the visual acuity and field of vision requirements stated above are met. On-the-job evaluation shall be used for individuals who exhibit a mild color vision defect.

(b) Where corrective eyeglasses are required, they shall be of the safety glass type.

(c) The use of corrective eyeglasses or contact lenses shall not interfere with an individual's ability to effectively perform assigned security job duties during normal or emergency operations.

(2) Hearing: (a) Individuals shall have no hearing loss in the better ear greater than 30 decibels average at 500 Hz, 1,000 Hz, and 2,000 Hz, with no level greater than 40 decibels at any one frequency (by ISO 38 "Standard Reference Zero for the Calibration of Purtone Audiometer" (1975) or ANSI S3.6—1969 (R. 1973) "Specifications for Audiometers")

(b) A hearing aid is accepable provided suitable testing procedures demonstrate auditory acuity equivalent to the above stated requirement.

(c) The use of a hearing aid shall not decrease the effective performance of the individual's assigned security job duties during normal or emergency operations.

(3) Diseases—Individuals shall have no established medical history or medical diagnosis of epilepsy or diabetes, or, where such a condition exists, the individual shall provide medical evidence that the condition can be controlled with proper medication so that the individual will not lapse into a coma or unconscious state while performing assigned security job duties.

(4) Addiction-Individuals shall have no established medical history or medical diagnosis of habitual alcoholism or drug addiction.

or, where such a condition has existed, the individual shall provide certified documentation of having completed a rehabilitation program which would give a reasonable degree of confidence that the individual would be capable of performing assigned security job duties.

(5) Other physical requirements—An individual who has been incapacitated due to a serious illness, injury, disease, or operation, which could interfere with the effective performance of assigned security job duties shall, prior to resumption of such duties, provide medical evidence of recovery and ability to perform such security job duties.

2. Mental qualifications: a. Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall demonstrate mental alertness and the capability to exercise good judgment, implement instructions, assimilate assigned security tasks, and possess the acuity of senses and ability of expression sufficient to permit accurate communication by written, spoken, audible, visible, or other signals required by assigned job duties.

b. Armed individuals, and central alarm station operators, in addition to meeting the requirement stated in paragraph a. above, shall have no emotional instability that would interfere with the effective performance of assigned security job duties. The determination shall be made by a licensed psychologist or psychiatrist, or physician, or other person professionally trained to identify emotional instability.

c. The licensee shall arrange for continued observation of security personnel and for appropriate corrective measures by responsible supervisors for indications of emotional instability of individuals in the course of performing assigned security job duties. Identification of emotional instability by responsible supervisors shall be subject to verification by a licensed, trained person.

C. Medical examinations and physical fitness qualifications—Guards, armed response personnel, armed escorts and other armed security force members shall be given a medical examination including a determination and written certification by a licensed physician that there are no medical contraindications as disclosed by the medical examination to participation by the individual in physical fitness tests. Subsequent to this medical examination, guards, armed response personnel, armed escorts and other armed security force members shall demonstrate physical fitness for assigned security job duties by performing a practical physical exercise program within a specific time period. The exercise program performance objectives shall be described in the license training and qualifications plan and shall consider job-related functions such as strenuous activity, physical exertion, levels of stress, and exposure to the elements as they pertain to each individual's assigned security job duties for both normal and emergency operations. The physical fitness qualification of each guard, armed response person, armed escort, and other security force member shall be documented and attested to by a licensee security supervisor. The licensee shall retain this documentation as a record for three years from the date of each qualification.

D. Contract security personnel—Contract security personnel shall be required to meet the suitability, physical, and mental requirements as appropriate to their assigned security job duties in accordance with section I of this appendix.

E. Physical requalification—At least every 12 months, central alarm station operators shall be required to meet the physical requirements of B.1.b of this section, and guards, armed response personnel, and armed escorts shall be required to meet the physical requirements of paragraphs B.1.b (1) and (2), and C of this section. The licensee shall document each individual's physical requalification and shall retain this documentation of requalification as a record for three years from the date of each requalification.

F. Documentation—The results of suitability, physical, and mental qualifications data and test results must be documented by the licensee or the licensee's agent. The licensee or the agent shall retain this documentation as a record for three years from the date of obtaining and recording these results.

G. Nothing herein authorizes or requires a licensee to investigate into or judge the reading habits, political or religious beliefs, or attitudes on social, economic, or political issues of any person.

II. Training and qualifications.

A. Training requirements—Each individual who requires training to perform assigned security-related job tasks or job duties as identified in the licensee physical security or contingency plans shall, prior to assignment, be trained to perform these tasks and duties in accordance with the licensee or the licensee's agent's documented training and qualifications plan. The licensee or the agent shall maintain documentation of the current plan and retain this documentation of the plan as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the plan was developed and, if any portion of the plan is superseded, retain the material that is superseded for three years after each change.

B. Qualification requirements—Each person who performs security-related job tasks or job duties required to implement the licensee physical security or contingency plan shall, prior to being assigned to these tasks or duties, be qualified in accordance with the licensee's NRC-approved training and qualifications plan. The qualifications of each individual must be documented and attested by a licensee security supervisor. The licensee shall retain this documentation of each individual's qualifications as a record for three years after the employee ends employment in the security-related capacity and for three years after the close of period for which the licensee possesses the special nuclear material under each license, and superseded material for three years after each change.

C. Contract personnel—Contract personnel shall be trained, equipped, and qualified as appropriate to their assigned security-related job tasks or job duties, in accordance with sections II, III, IV, and V of this appendix. The qualifications of each individual must be documented and attested by a licensee security supervisor. The licensee shall retain this documentation of each individual's qualifications as a record for three years after the employee ends employment in the security-related capacity and for three years after the close of period for which the licensee possesses the special nuclear material under each license, and superseded material for three years after each change.

D. Security knowledge, skills, and abilities—Each individual assigned to perform the security related task identified in the licensee physical security or contingency plan shall demonstrate the required knowledge, skill, and ability in accordance with the specified standards for each task as stated in the NRC approved licensee training and qualifications plan. The areas of knowledge, skills, and abilities that shall be considered in the licensee's training and qualifications plan are as follows:

1. Protection of nuclear facilities, transport vehicles, and special nuclear material.
2. NRC requirements and guidance for physical security at nuclear facilities and for transportation.
3. The private security guard's role in providing physical protection for the nuclear industry.
4. The authority of private guards.
5. The use of nonlethal weapons.
6. The use of deadly force.
7. Power of arrest and authority to detain individuals.
8. Authority to search individuals and seize property.
9. Adversary group operations.
10. Motivation and objectives of adversary groups.
11. Tactics and force that might be used by adversary groups to achieve their objectives.
12. Recognition of sabotage related devices and equipment that might be used against the licensee's facility or shipment vehicle.
13. Facility security organization and operation.
14. Types of physical barriers.
15. Weapons, lock and key control system operation.
16. Location of SNM and/or vital areas within a facility.
17. Protected area security and vulnerability.
18. Types of alarm systems used.
19. Response and assessment to alarm annunciations and other indications of intrusion.
20. Familiarization with types of special nuclear material processed.
21. General concepts of fixed site security systems.
22. Vulnerabilities and consequences of theft of special nuclear material or radiological sabotage of a facility.
23. Protection of security system information.
24. Personal equipment use and operation for normal and contingency operations.
25. Surveillance and assessment systems and techniques.
26. Communications systems operation, fixed site.
27. Access control systems and operation for individuals, packages, and vehicles.
28. Contraband detection systems and techniques.
29. Barriers and other delay systems around material access or vital areas.
30. Exterior and interior alarm systems operation.
31. Duress alarm operation.
32. Alarm stations operation.
33. Response force organization.
34. Response force mission.
35. Response force operation.
36. Response force engagement.
37. Security command and control system during normal operation.
38. Security command and control system during contingency operation.
39. Transportation systems security organization and operation.
40. Types of SNM transport vehicles.
41. Types of SNM escort vehicles.
42. Modes of transportation for SNM.
43. Road transport security system command and control structure.
44. Use of weapons.
45. Communications systems operation for transportation, shipment to control center and intraconvoy.
46. Vulnerabilities and consequences of theft of special nuclear material or radiological sabotage of a transport vehicle.
47. Protection of transport system security information.

48. Control of area around transport vehicle.

49. Normal convoy techniques and operations.

50. Familiarization with types of special nuclear materials shipped.

51. Fixed post station operations.

52. Access control system operation.

53. Search techniques and systems for individuals, packages and vehicles.

54. Escort and patrol responsibilities and operation.

55. Contengency response to confirmed intrusion or attempted intrusion.

56. Security system operation after component failure.

57. Fixed site security information protection.

58. Security coordination with local law enforcement agencies.

59. Security and situation reporting, documentation and report writing.

60. Contingency duties.

61. Self defense.

62. Use of and defenses against incapacitating agents.

63. Security equipment testing.

64. Contingency procedures.

65. Night vision devices and systems.

66. Mechanics of detention.

67. Basic armed and unarmed defensive tactics.

68. Response force deployment.

69. Security alert procedures.

70. Security briefing procedures.

71. Response force tactical movement.

72. Response force withdrawal.

73. Reponse force use of support fire.

74. Response to bomb and attack threats.

75. Response to civil disturbances (e.g., strikes, demonstrators).

76. Response to confirmed attempted theft of special nuclear material and/or radiological sabotage of facilities.

77. Response to hostage situations.

78. Site specific armed tactical procedures and operation.

79. Security response to emergency situations other than security incidents.

80. Basic transportation defensive response tactics.

81. Armed escort deployment.

82. Armed escort adversary engagement.

83. Armed escort formations.

84. Armed escort use of weapons fire (tactical and combat).

85. Armed escort and shipment movement under fire.

86. Tactical convoying techniques and operations.

87. Armed escort tactical exercises.

88. Armed escort response to bomb and attack threats.

89. Verification of shipment documentation and contents.

90. Continuous surveillance of shipment vehicle.

91. Normal and contingency operation for shipment mode transfer.

92. Armed personnel procedures and operation during temporary storage between mode transfers of shipments.

93. Armed escort threat assessment and response.

94. System for and operation of shipment vehicle lock and key control.

95. Techniques and procedures for isolation of shipment vehicle during a contingency situation.

96. Transportation coordination with local law enforcement agencies.

97. Procedures for verification of shipment locks and seals.

98. Transportation security and situation reporting, documentation, and report writing.

99. Procedures for shipment delivery and pickup.

100. Transportation security system for escort by road, rail, air and sea.

E. Requalification—Security personnel shall be requalified at least every 12 months to perform assigned security-related job tasks and duties for both normal and contingency operations. Requalification shall be in accordance with the NRC-approved licensee training and qualifications plan. The results of requalification must be documented and attested by a licensee security supervisor. The licensee shall retain this documentation of each individual's requalification as a record for three years from the date of each requalification.

III. Weapons training.

A. Guards, armed response personnel and armed escorts requiring weapons training to perform assigned security related job tasks or job duties shall be trained in accordance with the licensees' documented weapons training programs. Each individual shall be proficient in the use of his assigned weapon(s) and shall meet prescribed standards in the following areas:

1. Mechanical assembly, disassembly, range penetration capability of weapon, and bullseye firing.
2. Weapons cleaning and storage.
3. Combat firing, day and night.
4. Safe weapons handling.
5. Clearing, loading, unloading, and reloading.
6. When to draw and point a weapon.
7. Rapid fire techniques.
8. Close quarter firing.
9. Stress firing.
10. Zeroing assigned weapon(s).

IV. Weapons qualification and requalification program.

Qualification firing for the handgun and the rifle must be for daylight firing, and each individual shall perform night firing for familiarization with assigned weapon(s). The results of weapons qualification and requalification must be documented by the licensee or the licensee's agent. Each individual shall be requalified at least every 12 months. The licensee shall retain this documentation of each qualification and requalification as a record for three years from the date of the qualification or requalification, as appropriate.

A. Handgun—Guards, armed escorts and armed response personnel shall qualify with a revolver or semiautomatic pistol firing the national police course, or an equivalent nationally recognized course. Qualifying score shall be an accumulated total of 70 percent of the maximum obtainable score.

B. Semiautomatic Rifle—Guards, armed escorts and armed response personnel, assigned to use the semiautomatic rifle by the licensee training and qualifications plan, shall qualify with a semiautomatic rifle by firing the 100-yard course of fire specified in section 17.5(1) of the National Rifle Association, High Power Rifle Rules book (effective March 15, 1976),[1] or a nationally recognized equivalent course of fire. Targets used shall be as stated in section 17.5 for the 100-yard course. Time limits for individuals shall be as specified in section 8.2 of the NRA rule book, regardless of the course fired. Qualifying score shall be an accumulated total of 80 percent of the maximum obtainable score.

C. Shotgun—Guards, armed escorts, and armed response personnel assigned to use the 12 gauge shotgun by the licensee training and qualifications plan shall qualify with a full choke or improved modified choke 12 gauge shotgun firing the following course:

Range	Position	No. Rounds[1]	Target[2]
15 yds	Hip fire point	4	B-27
25 yds	Shoulder	4	B-27

[1] The 4 rounds shall be fired at 4 separate targets within 10 seconds using 00 gauge (9 pellet) shotgun shells.

[2] As set forth by the National Rifle Association (NRA) in its official rules and regulations, "NRA Target Manufacturers Index," December 1976.

To qualify the individual shall be required to place 50 percent of all pellets (36 pellets) within the black silhouette.

D. Requalification—Individuals shall be weapons requalified at least every 12 months in accordance with the NRC approved licensee training and qualifications plan, and in accordance with the requirements stated in A, B, and C of this section.

V. Guard, armed response personnel, and armed escort equipment.

A. Fixed Site—Fixed site guards and armed response personnel shall either be equipped with or have available the following security equipment appropriate to the individual's assigned contingency security related tasks or job duties as described in the licensee physical security and contingency plans:

1. Semiautomatic rifles with following nominal minimum specifications:

(a) .223 caliber.

(b) Muzzle velocity, 1980 ft/sec.

(c) Muzzle energy, 955 foot-pounds.

(d) Magazine or clip load of 10 rounds.

(e) Magazine reload, < 10 seconds.

(f) Operable in any environment in which it will be used.

2. 12 gauge shotguns with the following capabilities:

(a) 4 round pump or semiautomatic.

(b) Operable in any environment in which it will be used.

(c) Full or modified choke.

3. Semiautomatic pistols or revolvers with the following nominal minimum specifications:

(a) .354 caliber.

(b) Muzzle energy, 250 foot-pounds.

(c) Full magazine or cylinder reload capability < 6 seconds.

(d) Muzzle velocity, 850 ft/sec.

(e) Full cylinder or magazine capacity, 6 rounds.

(f) Operable in any environment in which it will be used.

4. Ammunition:

(a) For each assigned weapon as appropriate to the individual's assigned contingency security job duties and as readily available as the weapon:

(1) 18 rounds per handgun.

(2) 100 rounds per semiautomatic rifle.

(3) 12 rounds each per shotgun (00 gauge and slug).

(b) Ammunition available on site—two (2) times the amount stated in (a) above for each weapon.

5. Personal equipment to be readily available for individuals whose assigned contingency security job duties, as described in the licensee physical security and contingency plans, warrant such equipment:

(a) Helmet, combat.

(b) Gas mask, full face.

(c) Body armor (bullet-resistant vest).

(d) Flashlights and batteries.

(e) Baton.

(f) Handcuffs.

(g) Ammunition/equipment belt.

6. Binoculars.

7. Night vision aids, i.e., hand-fired illumination flares or equivalent.

8. Tear gas or other nonlethal gas.

9. Duress alarms.

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[1] Copies of the "NRA High Power Rifle Rules" may be examined at, or obtained from, the National Rifle Association, 1600 Rhode Island Avenue NW., Washington, DC 20036.

10. Two-way portable radios (handi-talkie) 2 channels minimum, 1 operating and 1 emergency.

B. Transportation—Armed escorts shall either be equipped with or have readily available the following security equipment appropriate to the individual's assigned contingency security related tasks or job duties, as described in the licensee physical security and contingency plans:

1. Semiautomatic rifles with the following nominal minimum specifications:

(a) .223 caliber.

(b) Muzzle velocity, 1,980 ft/sec.

(c) Muzzle energy, 955 foot-pounds.

(d) Magazine or clip of 10 rounds.

(e) Reload capability, 10 seconds.

(f) Operable in any environment in which it will be used.

2. 12 gauge shotguns.

(a) 4 round pump or semiautomatic.

(b) Operable in any environment in which it will be used.

(c) Full or modified choke.

3. Semiautomatic pistols or revolvers with the following nominal minimum specifications:

(a) .354 caliber.

(b) Muzzle energy, 250 foot-pounds.

(c) Full magazine or cylinder reload capability 6 seconds.

(d) Muzzle velocity, 850 ft/sec.

(e) Full cylinder or magazine capacity, 6 rounds.

(f) Operable in any environment in which it will be used.

4. Ammunition for each shipment.

(a) For each assigned weapon as appropriate to the individual's assigned contingency security job duties and as readily available as the weapon:

(1) 36 rounds per handgun.

(2) 120 rounds per semiautomatic rifle.

(3) 12 rounds each per shotgun (00 gauge and slug).

5. Escort vehicles, bullet resisting, equipped with communications systems, red flares, first aid kit, emergency tool kit, tire changing equipment, battery chargers for radios (where appropriate, for recharging portable radio batteries).

6. Personal equipment to be readily available for individuals whose assigned contingency security job duties, as described in the licensee physical security and contingency plans, warrant such equipment:

(a) Helmet, combat.

(b) Gas mask, full face.

(c) Body armor (bullet-resistant vest).

(d) Flashlights and batteries.

(e) Baton.

(f) Ammunition/equipment belt.

(g) Pager/duress alarms.

7. Binoculars.

8. Night vision aids, i.e., hand-fired illumination flares or equivalent.

9. Tear gas or other nonlethal gas.

[43 FR 37426, Aug. 23, 1978, as amended at 46 FR 2026, Jan. 8, 1981; 53 FR 405, Jan. 7, 1988; 53 FR 19261, May 27, 1988]

APPENDIX C TO PART 73—LICENSEE SAFEGUARDS CONTINGENCY PLANS

INTRODUCTION

A licensee safeguards contingency plan is a documented plan to give guidance to licensee personnel in order to accomplish specific, defined objectives in the event of threats, thefts, or radiological sabotage relating to special nuclear material or nuclear facilities licensed under the Atomic Energy Act of 1954, as amended. An acceptable safeguards contingency plan must contain (1) a predetermined set of decisions and actions to satisfy stated objectives, (2) an identification of the data, criteria, procedures, and mechanisms necessary to effect efficiently the decisions and actions, and (3) a specification of the individual, group, or organizational entity responsible for each decision and action.

The goals of licensee safeguards contingency plans for dealing with threats, thefts, and radiological sabotage are (1) to organize the response effort at the licensee level, (2) to provide predetermined, structured responses by licensees to safeguards contingencies, (3) to ensure the integration of the licensee response with the responses by other entities, and (4) to achieve a measurable performance in response capability. Licensee safeguards contingency planning should result in organizing the licensee's resources in such a way that the participants will be identified, their several responsibilities specified, and the responses coordinated. The responses should be timely and internally consistent among themselves.

It is important to note that a licensee's safeguards contingency plan is intended to be complementary to any emergency plans developed pursuant to appendix E of part 50 of this chapter or to § 70.22(i) of part 70 of this chapter.

CONTENTS OF THE PLAN

Each licensee safeguards contingency plan shall include five categories of information:

1. Background
2. Generic Planning Base
3. Licensee Planning Base
4. Responsibility Matrix
5. Procedures

Although the implementing procedures (the fifth category of Plan information) are the culmination of the planning process, and therefore are an integral and important part of the safeguards contingency plan, they entail operating details subject to frequent changes. They need not be submitted to the Commission for approval, but will be inspected by NRC staff on a periodic basis. The licensee is responsible for ensuring that the implementing procedures reflect the information in the Responsibility Matrix, appropriately summarized and suitably presented for effective use by the responding entities.

The following paragraphs describe the contents of the safeguards contingency plan.

1. *Background.* Under the following topics, this category of information shall identify and define the perceived dangers and incidents with which the plan will deal and the general way it will handle these:

a. Perceived Danger—A statement of the perceived danger to the security of special nuclear material, licensee personnel, and licensee property, including covert diversion of special nuclear material, radiological sabotage, and overt attacks. The statement of perceived danger should conform with that promulgated by the Nuclear Regulatory Commission. (The statement contained in 10 CFR 73.55(a) or subsequent Commission statements will suffice.)

b. Purpose of the Plan—A discussion of the general aims and operational concepts underlying implementation of the plan.

c. Scope of the Plan—A delineation of the types of incidents covered in the plan.

d. Definitions—A list of terms and their definitions used in describing operational and technical aspects of the plan.

2. *Generic Planning Base.* Under the following topics, this category of information shall define the criteria for initiation and termination of responses to safeguards contingencies together with the specific decisions, actions, and supporting information needed to bring about such responses:

a. Identification of those events that will be used for signaling the beginning or aggravation of a safeguards contingency according to how they are perceived initially by licensee's personnel. Such events may include alarms or other indications signaling penetration of a protected area, vital area, or material access area; material control or material accounting indications of material missing or unaccounted for; or threat indications—either verbal, such as telephoned threats, or implied, such as escalating civil disturbances.

b. Definition of the specific objective to be accomplished relative to each identified event. The objective may be to obtain a level of awareness about the nature and severity of the safeguards contingency in order to prepare for further responses; to establish a level of response preparedness; or to successfully nullify or reduce any adverse safeguards consequences arising from the contingency.

3. *Licensee Planning Base.* This category of information shall include the factors affecting contingency planning that are specific for each facility or means of transportation. To the extent that the topics are treated in adequate detail in the licensee's approved physical security plan, they may be incorporated by cross reference to that plan. The following topics should be addressed:

a. Licensee's Organizational Structure for Contingency Responses—A delineation of the organization's chain of command and delegation of authority as these apply to safeguards contingencies.

b. Physical Layout—(i) Fixed Sites—A description of the physical structures and their location on the site, and a description of the site in relation to nearby town, roads, and other environmental features important to the effective coordination of response operations. Particular emphasis should be placed on main and alternate entry routes for law-enforcement assistance forces and the location of control points for marshalling and coordinating response activities.

(ii) Transportation—A description of the vehicles, shipping routes, preplanned alternate routes, and related features.

c. Safeguards Systems Hardware—A description of the physical security and accounting system hardware that influence how the licensee will respond to an event. Examples of systems to be discussed are communications, alarms, locks, seals, area access, armaments, and surveillance.

d. Law Enforcement Assistance—A listing of available local law enforcement agencies and a description of their response capabilities and their criteria for response; and a discussion of working agreements or arrangements for communicating with these agencies.

e. Policy Constraints and Assumptions—A discussion of State laws, local ordinances, and company policies and practices that govern licensee response to incidents. Examples that may be discussed include:

Use of deadly force;
Use of employee property;
Use of off-duty employees;
Site security jurisdictional boundaries.

f. Administrative and Logistical Considerations—Descriptions of licensee practices that may have an influence on the response to safeguards contingency events. The considerations shall include a description of the procedures that will be used for ensuring that all equipment needed to effect a successful response to a safeguards contingency will be easily accessible, in good working order, and in sufficient supply to provide redundancy in case of equipment failure.

4. *Responsibility Matrix.* This category of information consists of detailed identification of the organizational entities responsible for each decision and action associated with specific responses to safeguards contin

gencies. For each initiating event, a tabulation shall be made for each response entity depicting the assignment of responsibilities for all decisions and actions to be taken in response to the initiating event. (Not all entities will have assigned responsibilities for any given initiating event.) The tabulations in the Responsibility Matrix shall provide an overall picture of the response actions and their interrelationships. Safeguards responsibilities shall be assigned in a manner that precludes conflict in duties or responsibilities that would prevent the execution of the plan in any safeguards contingency.

5. *Procedures.* In order to aid execution of the detailed plan as developed in the Responsibility Matrix, this category of information shall detail the actions to be taken and decisions to be made by each member or unit of the organization as planned in the Responsibility Matrix.

(Sec. 161i, Pub. L. 83-703, 68 Stat. 948, secs. 201, 204(b)(1), Pub L. 93-438, 88 Stat. 1243, 1245 (42 U.S.C. 2201, 5841, 5844))

[43 FR 11965, Mar. 23, 1978; 43 FR 14007, Apr. 4, 1978]

APPENDIX D TO PART 73—PHYSICAL PROTECTION OF IRRADIATED REACTOR FUEL IN TRANSIT, TRAINING PROGRAM SUBJECT SCHEDULE

Pursuant to the provision of § 73.37 of 10 CFR part 73, each licensee who transports or delivers to a carrier for transport irradiated reactor fuel is required to assure that individuals used as shipment escorts have completed a training program. The subjects that are to be included in this training program are as follows:

Security Enroute

- Route planning and selection
- Vehicle operation
- Procedures at stops
- Detours and use of alternate routes

Communications

- Equipment operation
- Status reporting
- Contacts with law enforcement units
- Communications discipline
- Procedures for reporting incidents

Radiological Considerations

- Description of the radioactive cargo
- Function and characteristics of the shipping casks
- Radiation hazards
- Federal, State and local ordinances relative to the shipment of radioactive materials
- Responsible agencies

Response to Contingencies

- Accidents
- Severe weather conditions
- Vehicle breakdown
- Communications problems
- Radioactive "spills"
- Use of special equipment (flares, emergency lighting, etc.)

Response to Threats

- Reporting
- Calling for assistance
- Use of immobilization features
- Hostage situations
- Avoiding suspicious situations

The licensee is also required to assure that armed individuals serving as shipment escorts, other than members of local law enforcement agencies, have completed a weapons training and qualifications program equivalent to that required of guards, as described in III and IV of appendix B of this part, to assure that each such individual is fully qualified to use weapons assigned him.

[44 FR 34468, June 15, 1979, as amended at 45 FR 34710, June 3, 1980]

APPENDIX E TO PART 73—LEVELS OF PHYSICAL PROTECTION TO BE APPLIED IN INTERNATIONAL TRANSPORT OF NUCLEAR MATERIAL [1]

(Verbatim from Annex I to the Convention on the Physical Protection of Nuclear Material)

(a) Levels of physical protection for nuclear material during storage incidental to international nuclear transport include:

(1) For Category III materials, storage within an area to which access is controlled;

(2) For Category II materials, storage within an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control or any area with an equivalent level of physical protection;

(3) For Category I material, storage within a protected area as defined for Cate-

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[1] See appendix C to part 110 of this chapter from the physical description of the categories of nuclear material as set forth in Annex I to the Convention. For the purposes of this part, the following categories of nuclear material are synonymous:

Category I is a formula quantity of strategic special nuclear material;

Category II is special nuclear material of moderate strategic significance or irradiated fuel; and

Category III is special nuclear material of low strategic significance.

gory II, to which, in addition, access is restricted to persons whose trustworthiness has been determined, and which is under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their objective the detection and prevention of any assault, unauthorized access, or unauthorized removal of material.

(b) Levels of physical protection for nuclear material during international transport include:

(1) For Category II and III materials, transportation shall take place under special precautions including prior arrangements among sender, receiver, and carrier, and prior agreement between natural or legal persons subject to the jurisdiction and regulation of exporting and importing States, specifying time, place and procedures for transferring transport responsibility;

(2) For Category I materials, transportation shall take place under special precautions identified for transportation of Category II and III materials, and in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces;

(3) For natural uranium other than in the form of ore or ore residue, transportation protection for quantities exceeding 500 kilograms U shall include advance notification of shipment specifying mode of transport, expected time of arrival and [shall provide for] confirmation of receipt of shipment.

[52 FR 9654, Mar. 26, 1987]

APPENDIX F TO PART 73—NATIONS THAT ARE PARTIES TO THE CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL[1]

Nation	Date of deposit of instrument of ratification with the IAEA
Brazil	Oct. 17, 1985.
Bulgaria	May 2, 1984.
Canada	Mar. 21, 1986.
Czechoslovakia	Apr. 23, 1982.
German Democratic Republic (E. Germany).	Feb. 5, 1981.
Guatemala	Apr. 23, 1985.
Hungary	May 4, 1984.
Indonesia	Nov. 5, 1986.
Korea, Republic of	Apr. 7, 1982.
Liechtenstein	Nov. 25, 1986.
Mongolia	May 28, 1986.
Norway	Aug. 15, 1985.
Paraguay	Feb. 6, 1985.
Philippines	Sept. 22, 1981.
Poland	Oct. 5, 1983.
Sweden	Aug. 1, 1980.
Switzerland	Jan. 9, 1987.
Turkey	Feb. 27, 1985.

APPENDIX F TO PART 73—NATIONS THAT ARE PARTIES TO THE CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL[1]—Continued

Nation	Date of depos of instrument o ratification wit the IAEA
Yugoslavia	May 14, 198
Union of Soviet Socialist Republic	May 25, 198
United States of America	Dec. 13, 198

[52 FR 9654, Mar. 26, 1987]

APPENDIX G TO PART 73—REPORTABLE SAFEGUARDS EVENTS

Pursuant to the provisions of 10 CFR 73.71 (b) and (c), licensees subject to the provisions of 10 CFR 73.20, 73.37, 73.50, 73.55, 73.60, and 73.67 shall report or record, as appropriate, the following safeguards events.

I. *Events to be reported within one hour of discovery, followed by a written report within 30 days.*

(a) Any event in which there is reason to believe that a person has commited or caused, or attempted to commit or cause, or has made a credible threat to commit or cause:

(1) A theft or unlawful diversion of special nuclear material; or

(2) Significant physical damage to a power reactor or any facility possessing SSNM or its equipment or carrier equipment transporting nuclear fuel or spent nuclear fuel, or to the nuclear fuel or spent nuclear fuel a facility or carrier possesses; or

(3) Interruption of normal operation of a licensed nuclear power reactor through the unauthorized use of or tampering with its machinery, components, or controls including the security system.

(b) An actual entry of an unauthorized person into a protected area, material access area, controlled access area, vital area, or transport.

(c) Any failure, degradation, or the discovered vulnerability in a safeguard system that could allow unauthorized or undetected access to a protected area, material access area, controlled access area, vital area, or transport for which compensatory measures have not been employed.

(d) The actual or attempted introduction of contraband into a protected area, material access area, vital area, or transport.

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[1] An update list of party nations will appear annually in the Department of State's publication, Treaties in Force. Appendix F will be amended as required to maintain its currency.

II. Events to be recorded within 24 hours and submitted in quarterly log.

(a) Any failure, degradation, or discovered vulnerability in a safeguards system that could have allowed unauthorized or undetected access to a protected area, material access area, controlled access area, vital area, or transport had compensatory measures not been established.

(b) Any other threatened, attempted, or committed act not previously defined in appendix G with the potential for reducing the effectiveness of the safeguards system below that committed to in a licensed physical security or contingency plan or the actual condition of such reduction in effectiveness.

[52 FR 21658, June 9, 1987]

APPENDIX H TO PART 73—MINIMUM QUALIFICATION CRITERIA FOR NIGHT FIRING

Weapon	Stage	Distance	No. Rounds	Timing	Position	Target	Scoring	Lighting
Handgun:								
Revolver	1	7 yds	12	35 sec	Standing—No artificial support.	B-27	Minimum qualifying=70%.	For all courses: 0.2 footcandles at center mass of target area.
	2	15 yds	12	45 sec	do			
Semi-automatic	1	7 yds	2 + clip	30 sec	do		do	
	2	15 yds	2 + clip	40 sec	do			
Shotgun	1	25 yds	2 Rifled slugs	30 sec (Load 2 slugs—chamber empty—Time starts—Commence firing.)	Standing—strong shoulder.	B-27	Rifled-Slug: Hits=strike area on target (10, 9, 7).	
	1	15 yds	5 Double 00 buckshot.	10 sec. (Load 5rds Buckshot—chamber empty—Time starts—Commence firing.)	do	B-27	Double 00 Buckshot: Hits in black=2 pts (5rds x 9 pellets/rd x 2 pts=90 Mimimum qualifying=70%.	
Rifle	1	25 yds	1—5rd mag	45 sec	Standing—Barricade	B-27		
	2	25 yds	1—5rd mag	45 sec	Standing			
	3	25 yds	1—5rd mag	45 sec	Kneeling		Minimum qualifying=70%.	
	4	25 yds	1—5rd mag	45 sec	Prone			

Note.—All firing is to be done only at night. Use of night simulation equipment during daylight is not allowable. Use of site specific devices (i.e., laser, etc.) should be included in the licensee amended security plan for NRC approval.

[53 FR 45453, Nov. 10, 1988]

PART 74—MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL

Subpart A—General Provisions

Sec.
74.1 Purpose.
74.2 Scope.
74.4 Definitions.
74.5 Interpretations.
74.6 Communications.
74.7 Specific exemptions.
74.8 Information collection requirements: OMB approval.

Subpart B—General Reporting

74.11 Reports of loss or theft or attempted theft of special nuclear material.
74.13 Material status reports.
74.15 Nuclear material transfer reports.
74.17 Special nuclear material physical inventory summary report.

Subpart C—Special Nuclear Material of Low Strategic Significance

74.31 Nuclear material control and accounting for special nuclear material of low strategic significance.

Subpart D—Special Nuclear Material of Moderate Strategic Significance [Reserved]

Subpart E—Formula Quantities of Strategic Special Nuclear Material

74.51 Nuclear material control and accounting for strategic special nuclear material.
74.53 Process monitoring.
74.55 Item monitoring.
74.57 Alarm resolution.
74.59 Quality assurance and accounting requirements.

Subpart F—Enforcement

74.81 Inspections.
74.82 Tests.
74.83 Violations.

AUTHORITY: Secs. 53, 57, 161, 182, 183, 68 Stat. 930, 932, 948, 953, 954, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2073, 2077, 2201, 2232, 2233, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 74.17, 74.31, 74.51, 74.53, 74.55, 74.57, 74.59, 74.81, and 74.82 are issued under secs. 161b and 161i, 68 Stat. 948, 949, as amended (42 U.S.C. 2201(b) and 2201(i)); and 74.11, 74.13, 74.15, and 74.17 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 50 FR 7579, Feb. 25, 1985, unless otherwise noted.

Subpart A—General Provisions

§ 74.1 Purpose.

(a) This part has been established to contain the requirements of the control and accounting of special nuclear material at fixed sites and for documenting the transfer of special nuclear material. General reporting requirements as well as specific requirements for certain licensees possessing special nuclear material of low strategic significance are included. The specific control and accounting requirements for other licensees are contained in §§ 70.51, 70.57, and 70.58 of this chapter.

(b) The general conditions and procedures for the submittal of a license application for the activities covered in this part are detailed in § 70.22 of this chapter.

§ 74.2 Scope.

(a) The general requirements of this part apply to each person licensed pursuant to part 70 or 72 of this chapter, who possesses special nuclear material in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof; or who transfers or receives a quantity of special nuclear material of 1 gram or more of contained uranium-235, uranium-233, or plutonium.

(b) In addition, specific control and accounting requirements are included for certain licensees who possess and use special nuclear material of low strategic significance.

(c) Specific control and accounting requirements for special nuclear material of moderate strategic significance, formula quantities of strategic special nuclear material, and miscellaneous categories of licensees who possess special nuclear material of low strategic significance are contained in §§ 70.51, 70.57, and 70.58 of this chapter.

§ 74.4 Definitions.

As used in this part:

Abrupt loss means a loss occurring in the time interval between consecutive sequential performances of a material control test which is designed to detect anomalies potentially indicative of a loss of strategic special nuclear material from a specific unit of SSNM (i.e., a quantity characterized by a unique measurement) introduced into a process.

Accessible location means a process location at which SSNM could be acquired without leaving evidence of the acquisition, i.e., without tools or other equipment to obviously violate the integrity of the containment.

Act means the Atomic Energy Act of 1954 (68 Stat. 919), including any amendments thereto.

Active inventory means the sum of additions to inventory, beginning inventory, ending inventory, and removals from inventory, after all common terms have been excluded. Common terms are any material values which appear in the active inventory calculation more than once and come from the same measurement.

Additions to material in process means: (1) Receipts that are opened, except for receipts opened only for sampling and subsequently maintained under tamper-safing; (2) opened sealed sources; and (3) material removed from process for nonconformance with chemical or physical specifications that is subsequently reprocessed, measured for contained SSNM, and reintroduced to process.

Alarm Threshold means a predetermined quantity of SSNM calculated from the specified probability of detection for a given loss and the standard deviation associated with a material control test. An alarm threshold serves to trigger a response action.

Bias means the deviation of the expected value of a random variable from the corresponding correct or assigned value.

Calibration means the process of determining the numerical relationship between the observed output of a measurement system and the value, based upon reference standards, of the characteristic being measured.

Category IA material means SSNM directly useable in the manufacture of a nuclear explosive device, except if:

(1) The dimensions are large enough (at least two meters in one dimension, greater than one meter in each of two dimensions, or greater than 25cm in each of three dimensions) to preclude hiding the item on an individual;

(2) The total weight of five formula kilograms of SSNM plus its matrix (at least 50 kilograms) cannot be carried inconspicuously by one person; or

(3) The quantity of SSNM (less than 0.05 formula kilograms) in each container requires protracted diversions in order to accumulate five formula kilograms.

Category IB material means all SSNM material other than Category IA.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Continuous process means a unit process in which feed material must be introduced in a systematic manner in order to maintain equilibrium conditions.

Controlled access area means any temporarily or permanently established area which is clearly demarcated, access to which is controlled, and which affords isolation of the material or persons within it.

DOE means the U.S. Department of Energy or its duly authorized representatives.

Effective kilograms of special nuclear material means:

(1) For plutonium and uranium-233 their weight in kilograms;

(2) For uranium with an enrichment in the isotope U^{235} of 0.01 (1 percent) and above, its element weight in kilograms multiplied by the square of its enrichment expressed as a decimal weight fraction; and

(3) For uranium with an enrichment in the isotope U^{235} below 0.01 (1 percent), its element weight in kilograms multiplied by 0.0001.

Element means uranium or plutonium.

Estimate means a specific numerical value arrived at by the application of an estimator.

Estimator means a function of a sample measurement used to estimate a population parameter.

Fissile isotope means: (1) Uranium U-233, or (2) uranium-235 by enrichment category, (3) plutonium-239, and (4) plutonium-241.

Formula kilogram means SSNM in any combination in a quantity of 1000 grams computed by the formula, grams=(grams contained U-235) + 2.5 (grams U-233 + grams plutonium).

Formula quantity means strategic special nuclear material in any combination in a quantity of 5,000 grams or more computed by the formula, grams=(grams contained U^{235})+2.5 (grams U^{233}+grams plutonium).

Government agency means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America, which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

High enriched uranium means uranium enriched to 20 percent or greater in the isotope uranium-235.

Inventory difference (ID) means the quantity obtained by subtracting ending inventory (EI) and removals (R) from beginning inventory (BI) and additions to inventory (A). Mathematically,

$$ID=BI+A-EI-R.$$

ID is sometimes also referred to as "material unaccounted for" (MUF) in this chapter.

License, except where otherwise specified, means a license issued pursuant to part 70 of this chapter.

Low enriched uranium means uranium enriched below 20 percent in the isotope uranium-235.

Material means special nuclear material.

Material access area means any location which contains special nuclear material, within a vault or a building, the roof, walls, and floor of which constitute a physical barrier.

Material balance means the determination of an inventory difference (ID).

MC&A alarm means a situation in which there is: (1) an out-of-location item or an item whose integrity has been violated, (2) an indication of a flow of SSNM where there should be none, or (3) a difference between a measured or observed amount or property of material and its corresponding predicted or property value that exceeds a threshold established to provide the detection capability required by § 74.53.

Material control test means a comparison of a pre-established alarm threshold with the results of a process difference or process yield performed on a unit process.

Material in process means any special nuclear material possessed by the licensee except in unopened receipts, sealed sources, measured waste discards, and ultimate product maintained under tamper-safing.

Measurement includes sampling and means the determination of mass, volume, quantity, composition or other property of a material where such determinations are used for special nuclear material control and accounting purposes.

Measurement system means all of the apparatus, equipment, instruments and procedures used in performing a measurement.

Person means:

(1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department of Energy, except that the Department of Energy shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244), any state or any political subdivision of or any political entity within a state, any foreign government or nation or political subdivision of any such government or nation, or other entity; and

(2) Any legal successor, representative, agent, or agency of the foregoing.

Physical inventory means determination on a measured basis of the quantity of special nuclear material on hand at a given time. The methods of physical inventory and associated measurements will vary depending on the material to be inventoried and the process involved.

Power of detection means the probability that the critical value of a statistical test will be exceeded when there is an actual loss of a specific SSNM quantity.

Process difference (PD) means the determination of an ID on a unit process level with the additional qualification that difficult to measure components may be modeled.

Process yield means the quantity of SSNM actually removed from a unit process compared with the quantity predicted (based on a measured input) to be available for removal. Process yield differs from a process difference in that holdup and sidestreams are not measured or modeled.

Produce when used in relation to special nuclear material, means: (1) To manufacture, make, produce, or refine special nuclear material; (2) to separate special nuclear material from other substances in which such material may be contained; or (3) to make or to produce new special nuclear material.

Random error means the deviation of a random variable from its expected value.

Receipt means special nuclear material received by a licensee from an offsite source.

Reference standard means a material, device, or instrument whose assigned value is known relative to national standards or nationally accepted measurement systems. This is also commonly referred to as a traceable standard.

Removals means measured quantities of special nuclear material disposed of as discards, encapsulated as a sealed source, or in ultimate product placed under tamper-safing or shipped offsite.

Research and development means: (1) Theoretical analysis, exploration, or experimentation; or (2) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials, and processes.

Scrap means the various forms of special nuclear material generated during chemical and mechanical processing, other than recycle material and normal process intermediates, which are unsuitable for continued processing, but all or part of which will be converted to useable material by appropriate recovery operations.

Sealed source means any special nuclear material that is physically encased in a capsule, rod, element, etc. that prevents the leakage or escape of the special nuclear material and that prevents removal of the special nuclear material without penetration of the casing.

Source material means source material as defined in section 11z. of the Act and in the regulations contained in part 40 of this chapter.

Special nuclear material means:

(1) Plutonium, uranium-233, uranium enriched in the isotope U^{233} or in the isotope U^{235}, and any other material which the Commission, pursuant to the provisions of section 51 of the Atomic Energy Act of 1954, as amended, determines to be special nuclear material, but does not include source material; or

(2) Any material artificially enriched by any of the foregoing, but does not include source material.

Special nuclear material of low strategic significance means:

(1) Less than an amount of special nuclear material of moderate strategic significance, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = grams contained U^{235} + grams plutonium + grams U^{233}; or

(2) Less than 10,000 grams but more than 1,000 grams of uranium-235 (contained in uranium enriched to 10 percent or more, but less than 20 percent in the U^{235} isotope); or

(3) 10,000 grams or more of uranium-235 contained in uranium enriched above natural, but less than 10 percent in the U^{235} isotope.

Special nuclear material of moderate strategic significance means:

(1) Less than a formula quantity of strategic special nuclear material but more than 1,000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope) or more than 500 grams of uranium-233 or plutonium or in a combined quantity of more than 1,000 grams when computed by the equation, grams=(grams contained U^{235})+2 (grams U^{233}+grams plutonium); or

(2) 10,000 grams or more or uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U^{235} isotope).

Standard Error of the Inventory Difference (SEID) means the standard deviation of an inventory difference that takes into account all measurement error contributions to the components of the ID.

Standard Error of the Process Difference means the standard deviation of a process difference value that takes into account both measurement and nonmeasurement contributions to the components of PD.

Strategic special nuclear material means uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope), uranium-233, or plutonium.

Tamper-safing means the use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previouly made measurements of special nuclear material within the container or vault.

Traceability means the ability to relate individual measurement results to national standards or nationally accepted measurement systems through an unbroken chain of comparisons.

Ultimate product means any special nuclear material in the form of a product that would not be further processed at that licensed location.

Unit process means an identifiable segment or segments of processing activities for which the amounts of input and output SSNM are based on measurements.

Unopened receipts means receipts not opened by the licensee, including receipts of sealed sources, and receipts opened only for sampling and subsequently maintained under tamper-safing.

Vault means a windowless enclosure with walls, floor, roof and door(s) designed and constructed to delay penetration from forced entry.

[50 FR 7579, Feb. 25, 1985, as amended at 52 FR 10039, Mar. 30, 1987]

§ 74.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretations of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized as binding on the Commission.

§ 74.6 Communications.

Any communication or report concerning the regulations in this part and any application filed under these regulations may be submitted to the Commission as follows:

(a) By mail addressed to—Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(b) By delivery in person to the Commission offices at—

(1) 2120 L Street NW, Washington, DC; or

(2) 11555 Rockville Pike, One White Flint North, Rockville, MD.

[50 FR 7579, Feb. 25, 1985, as amended at 53 FR 4112, Feb. 12, 1988; 53 FR 43422, Oct. 27, 1988]

§ 74.7 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

§ 74.8 Information collection requirements: OMB approval.

(a) The Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under Control No. 3150-0123.

(b) The approved information collection requirements contained in this part appear in §§ 74.11, 74.13, 74.31, and 74.51.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In § 74.15, DOE/NRC Form-741 is approved under Control No. 3150-0003.

(2) In § 74.13, DOE/NRC Form-742 is approved under Control No. 3150-0004.

(3) In § 74.13, DOE/NRC Form-742C is approved under Control No. 3150-0058.

(4) In § 74.17, NRC Form 327 is approved under Control No. 3150-0139.

[50 FR 7579, Feb. 25, 1985, as amended at 52 FR 10040, Mar. 30, 1987; 52 FR 19305, May 22, 1987]

Subpart B—General Reporting

§ 74.11 Reports of loss or theft or attempted theft of special nuclear material.

(a) Each licensee who possesses one gram or more of contained uranium-235, uranium-233, or plutonium shall notify the NRC Operations Center[1] within one hour of discovery of any loss or theft or other unlawful diversion of special nuclear material which the licensee is licensed to possess, or any incident in which an attempt has been made to commit a theft or unlawful diversion of special nuclear material. The requirement does not pertain to measured discards or inventory difference quantities.

(b) This notification must be made to the NRC Operations Center via the Emergency Notification System if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.21(g)(3) applies to all telephonic reports required by this section.

(c) Reports required under § 73.71 need not be duplicated under requirements of this section.

[52 FR 21659, June 9, 1987; 52 FR 23257, June 18, 1987]

§ 74.13 Material status reports.

(a)(1) Each licensee authorized to possess at any one time and location special nuclear material in a quantity totaling more than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, shall complete and submit to the Commission (on DOE/NRC Form 742, Material Balance Report) material balance reports concerning special nuclear material received, produced, possessed, transferred, consumed, disposed of, or lost by it. Each nuclear reactor licensee, as defined in §§ 50.21 and 50.22 of this chapter, also shall prepare (on DOE/NRC Form 742C, Physical Inventory Listing) a statement of the composition of the ending inventory, and submit it to the Commission as an attachment to each material balance report. Each licensee shall compile a report as of March 31 and September 30 of each year and file it within 30 days after the end of the period covered by the report. The Commission may permit a licensee to submit such reports at other times when good cause is shown. In preparing and submitting the reports described in this paragraph, each licensee shall comply with the printed instructions for completing the particular form.

(2) Any licensee who is required to submit routine material status reports pursuant to § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit such reports only as provided in that section (instead of as provided in paragraph (a)(1) of this section).

(b) Each licensee subject to the requirements of § 70.51(e) of this chapter shall submit a report, in accordance with paragraph (b)(1) or (b)(2) of this section, to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 within 30 calendar days after the start of each ending physical inventory required by § 70.51(e)(3) of this chapter.

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[1] Commercial telephone number of the NRC Operations Center is (301) 951-0550.

(1) If the inventory difference exceeded both

(i) Twice the standard error of the estimated measurement uncertainty associated with the inventory difference, and

(ii) 200 grams of plutonium or U^{233} 300 grams of high enriched uranium or uranium-235 contained in high enriched uranium, or 9000 grams of uranium-235 contained in low enriched uranium, a statement of the probable reasons for the excessive inventory difference and corrective actions taken or planned; and

(2) If for any material twice the standard error of the estimated measurement uncertainty associated with the inventory difference exceeds any applicable limits specified in § 70.51(e)(5) or approved pursuant to § 70.51(e)(6) of this chapter, a statement of the probable reasons for the excessive standard error and the actions taken or planned with respect to controlling the standard error within applicable limits.

[50 FR 7579, Feb. 25, 1985, as amended at 51 FR 9766, Mar. 21, 1986; 52 FR 31613, Aug. 21, 1987; 54 FR 6877, Feb. 15, 1989; 55 FR 5979, Feb. 21, 1990]

§ 74.15 Nuclear material transfer reports.

(a) Each licensee who transfers and each licensee who receives special nuclear material shall complete and distribute a Nuclear Material Transaction Report on DOE/NRC Form-741. This should be done in accordance with the printed instructions for completing the form whenever the licensee transfers or receives a quantity of special nuclear material of 1 gram or more of contained uranium-235, uranium-233, or plutonium.

(b) Each licensee who receives 1 gram or more of contained uranium-235, uranium-233, or plutonium from a foreign source shall:

(1) Complete both the supplier's and receiver's portion of DOE/NRC Form-741;

(2) Perform independent tests to assure the accurate identification and measurement of the material received, including its weight and enrichment; and

(3) Indicate the results of these tests on the receiver's portion of the form.

(c) Any licensee who is required to submit inventory change reports on DOE/NRC Form-741 pursuant to § 75.34 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in paragraphs (a) and (b) of this section).

§ 74.17 Special nuclear material physical inventory summary report.

(a) Each licensee subject to the requirements of § 74.31 shall submit a completed Special Nuclear Material Physical Inventory Summary Report on NRC Form 327 not later than 60 calendar days from the start of the physical inventory required by § 74.31(c)(5). The licensee shall report the inventory results by plant and total facility to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(b) Each licensee subject to the requirements of § 70.51(e) of this chapter shall submit a completed Special Nuclear Material Physical Inventory Summary Report on NRC Form 327 not later than 30 calendar days from the start of the physical inventory required by § 70.51(e)(3) of this chapter. The licensee shall report the inventory results by plant and total facility to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(c) Each licensee subject to the requirements of § 74.51 shall submit a completed Special Nuclear Material Physical Inventory Summary Report on NRC Form 327 not later than 45 calendar days from the start of the physical inventory required by § 74.59(f). The licensee shall report the inventory results by plants and total facility to the appropriate NRC regional office listed in appendix A of part 73 of this chapter.

[52 FR 19305, May 22, 1987, as amended at 54 FR 6877, Feb. 15, 1989; 55 FR 5979, Feb. 21, 1990]

Subpart C—Special Nuclear Material of Low Strategic Significance

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance.

(a) *General performance objectives.* Each licensee who is authorized to possess and use more than one effective kilogram of special nuclear material of low strategic significance, excluding sealed sources, at any site or contiguous sites subject to control by the licensee, other than a production or utilization facility licensed pursuant to part 50 of this chapter, or operations involved in waste disposal, shall implement and maintain a Commission approved material control and accounting system that will achieve the following objectives:

(1) Confirm the presence of special nuclear material;

(2) Resolve indications of missing material; and

(3) Aid in the investigation and recovery of missing material.

(b) *Implementation dates.* Each licensee subject to the requirements of paragraph (a) of this section shall:

(1) No later than August 26, 1985, submit a fundamental nuclear material control plan describing how the requirements of paragraph (c) of this section will be met; and

(2) No later than December 23, 1985, or 60 days after the plan submitted pursuant to paragraph (b)(1) of this section is approved, whichever is later, implement the approved plan.

(c) *System capabilities.* To meet the general performance objectives of paragraph (a) of this section, the material control and accounting system must include the capabilities described in paragraph (c) (1) through (8) of this section. The licensee shall:

(1) Establish, document, and maintain a management structure which assures clear overall responsibility for material control and accounting func-
tions, independence from productio
responsibilities, separation of key r
sponsibilities, and adequate review an
use of critical material control and a
counting procedures;

(2) Establish and maintain a mea
urement system which assures that a
quantities in the material accountin
records are based on measured value

(3) Follow a measurement contr
program which assures that measur
ment bias is estimated and significar
biases are eliminated from inventor
difference values of record;

(4) In each inventory period, contr
total material control and accountin
measurement uncertainty so th
twice its standard error is less tha
the greater of 9 kilograms of U^{235}
0.25 percent of the active inventor
and assure that any measurement pe
formed under contract is controlled
that the licensee can satisfy this r
quirement;

(5) Unless otherwise required to sa
isfy part 75 of this chapter, perform
physical inventory at least every
months and, within 60 days after th
start of the inventory, reconcile an
adjust the book inventory to the r
sults of the physical inventory, and r
solve, or report an inability to resolv
any inventory difference which is r
jected by a statistical test which has
90 percent power of detecting a di
crepancy of a quantity of uranium-2
established by NRC on a site-specif
basis;

(6) Maintain current knowledge
items when the sum of the time of e
istence of an item, the time to make
record of the item, and the time nece
sary to locate the item exceeds
days. Store and handle, or subsequen
ly measure, items in a manner so th
unauthorized removals of substanti
quantities of material from items w
be detected. Exempted are items ind
vidually containing less than 5
grams of U^{235} up to a total of 50 kil
grams of U^{235}, solutions with a conce
tration of less than 5 grams of U^{235} p
liter, and items of waste destined f
burial or incineration;

(7) Resolve, on a shipment basis an
when required to satisfy part 75
this chapter, on a batch basis, shi
per/receiver differences that exce
both twice the combined measureme

standard error for that shipment and 500 grams of U^{235}; and

(8) Independently assess the effectiveness of the material control and accounting system at least every 24 months, and document management's action on prior assessment recommendations.

(d) *Recordkeeping.* (1) Each licensee shall establish records that will demonstrate that the requirements of paragraph (c) of this section have been met and maintain these records for at least 3 years, unless a longer retention time is required by part 75 of this chapter.

(2) Records which must be maintained pursuant to this part may be the original or a reproduced copy or a microform if such reproduced copy or microform is duly authenticated by authorized personnel and the microform is capable of producing a clear and legible copy after storage for the period specified by Commission regulations. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures.

The licensee shall maintain adequate safeguards against tampering with and loss of records.

[50 FR 7579, Feb. 25, 1985, as amended at 53 FR 19262, May 27, 1988]

Subpart D—Special Nuclear Material of Moderate Strategic Significance [Reserved]

Subpart E—Formula Quantities of Strategic Special Nuclear Material

SOURCE: 52 FR 10040, Mar. 30, 1987, unless otherwise noted.

§ 74.51 Nuclear material control and accounting for strategic special nuclear material.

(a) *General performance objectives.* Each licensee who is authorized to possess five or more formula kilograms of strategic special nuclear material (SSNM) and to use such material at any site, other than a nuclear reactor licensed pursuant to part 50 of this chapter, an irradiated fuel reprocessing plant, or an operation involved with waste disposal shall establish, implement, and maintain a Commission approved material control and accounting (MC&A) system that will achieve the following objectives:

(1) Prompt investigation of anomalies potentially indicative of SSNM losses;

(2) Timely detection of the possible abrupt loss of five or more formula kilograms of SSNM from an individual unit process;

(3) Rapid determination of whether an actual loss of five or more formula kilograms occurred;

(4) Ongoing confirmation of the presence of SSNM in assigned locations; and

(5) Timely generation of information to aid in the recovery of SSNM in the event of an actual loss.

(b) *System capabilities.* To achieve the general performance objectives specified in § 74.51(a), the MC&A system must provide the capabilities described in §§ 74.53, 74.55, 74.57 and 74.59 and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion by:

(1) An individual, including an employee in any position; or

(2) Collusion between an individual with MC&A responsibilities and another individual who has responsibility or control within both the physical protection and the MC&A systems.

(c) *Implementation dates.* Each licensee subject to the requirements of paragraph (a) of this section shall:

(1) No later than September 25, 1987, submit a fundamental nuclear material control (FNMC) plan describing how the licensee will comply with the requirements of paragraph (b) of this section; and

(2) No later than April 29, 1988, or 90 days after the plan submitted pursuant to paragraph (c)(1) of this section is approved, whichever is later, implement the approved plan. Current FNMC plans must be followed until new plans are approved by the NRC.

(d) *Exemptions.* (1) Notwithstanding paragraph (c)(2) of this section, a licensee may delay, for an additional 18 months beyond the prescribed 90 days, implementation of provisions of the plan involving process shutdown for resolution of alarms. However, during such delay, the licensee shall continue to conduct inventories at bimonthly intervals.

(2) Notwithstanding § 74.59(f)(1), licensees shall perform at least three bimonthly physical inventories after implementation of the NRC approved FNMC Plan and shall continue to perform bimonthly inventories until performance acceptable to the NRC has been demonstrated and the Commission has issued formal approval to perform semiannual inventories. Licensees who have prior experience with process monitoring and/or can demonstrate acceptable performance against all Plan commitments may request authorization to perform semiannual inventories at an earlier date.

§ 74.53 Process monitoring.

(a) Licensees subject to § 74.51 shall monitor internal transfers, storage, and processing of SSNM. The process monitoring must achieve the detection capabilities described in paragraph (b) of this section for all SSNM except:

(1) SSNM that is subject to the item loss detection requirements of § 74.55;

(2) Scrap in the form of small pieces, cuttings, chips, solutions, or in other forms that result from a manufacturing process, held in containers of 30 gallons or larger, with an SSNM content of less than 0.25 grams per liter;

(3) SSNM with an estimated measurement standard deviation greater than five percent that is either input or output material associated with a unit that processes less than five formula kilograms over a consecutive three-month period; and

(4) SSNM involved in research and development operations that process less than five formula kilograms during any seven-consecutive-day period.

(b) *Unit process detection capability.* For each unit process, a licensee shall establish a production quality control program capable of monitoring the status of material in process. The program shall include:

(1) A statistical test that has at least a 95 percent power of detecting an
abrupt loss of five formula kilog
within three working days of a l
Category IA material from any
sible process location and within
calendar days of a loss of Catego
material from any accessible p
location;

(2) A quality control test wh
process differences greater than
times the estimated standard dev
of the process difference esti
and 25 grams of SSNM are inves
ed; and

(3) A trend analysis for moni
and evaluating sequences of ma
control test results from each
process to determine if they indi
pattern of losses or gains that
safeguards significance.

(c) For research and develo
operations exempt from the re
ments of paragraph (b) of this se
the licensee shall:

(1) Perform material balance
on a lot or a batch basis, as app
ate, or monthly, whichever is s
and investigate any difference g
than 200 grams of plutonium or
or 300 grams of U-235 that e
three times the estimated sta
error of the inventory differenc
mator;

(2) Evaluate material balance
generated during an inventory
for indications of measurement
or unidentified loss streams and
tigate, determine the cause(s) o
institute corrective action for c
tive inventory differences gen
during an inventory period
exceed three formula kilogra
SSNM.

§ 74.55 Item monitoring.

(a) Licensees subject to § 74.5
provide the detection capabili
scribed in paragraph (b) of this
for laboratory samples containi
than 0.05 formula kilograms of
and any uniquely identified it
SSNM that have been quantit
measured, the validity of that
urement independently con
and that additionally have
either:

(1) Tamper-safed or placed in
or controlled access area that p

protection at least equivalent to tamper-safing; or

(2) Sealed such that removal of SSNM would be readily and permanently apparent (e.g., encapsulated).

(b) The licensee shall verify on a statistical sampling basis, the presence and integrity of SSNM items. The statistical sampling plan must have at least 99 percent power of detecting item losses that total five formula kilograms or more, plant-wide, within:

(1) Thirty calendar days for Category IA items and 60 calendar days for Category IB items contained in a vault or in a permanently controlled access area isolated from the rest of the material access area (MAA);

(2) Three working days for Category IA items and seven calendar days for Category BI items located elsewhere in the MAA, except for reactor components measuring at least one meter in length and weighing in excess of 30 kilograms for which the time interval shall be 30 calendar days;

(3) Sixty calendar days for items in a permanently controlled access area outside of an MAA; or

(4) Sixty calendar days for samples in a vault or permanently controlled access area and 30 calendar days for samples elsewhere in the MAA for samples each containing less than 0.05 formula kilograms of SSNM.

(c) Items containing scrap in the form of small pieces, cuttings, chips, solutions, or in other forms that result from a manufacturing process, held in containers of 30 gallon or larger, with an SSNM concentration of less than 0.25 grams per liter are exempt from the requirements of paragraph (b) of this section.

§ 74.57 Alarm resolution.

(a) Licensees subject to § 74.51 shall provide the MC&A alarm resolution capabilities described in paragraphs (b) through (f) of this section.

(b) Licensees shall resolve the nature and cause of any MC&A alarm within approved time periods.

(c) Each licensee shall notify the Domestic Safeguards and Regional Oversight Branch of the Division of Safeguards and Transportation, Office of Nuclear Material Safety and Safeguards by telephone on (301) 492-3379 of any MC&A alarm that remains unresolved beyond the time period specified for its resolution in the licensee's fundamental nuclear material control plan. Notification must occur within 24 hours except when a holiday or weekend intervenes in which case the notification must occur on the next scheduled workday. The licensee may consider an alarm to be resolved if:

(1) Clerical or computational error is found that clearly was the cause for the alarm; or

(2) An assignable cause for the alarm is identified or it is substantiated that no material loss has occurred.

(d) If a material loss has occurred, the licensee shall determine the amount of SSNM lost and take corrective action to:

(1) Return out-of-place SSNM, if possible, to its appropriate place;

(2) Update and correct associated records; and

(3) Modify the MC&A system, if appropriate, to prevent similar future occurrences.

(e) The licensee shall provide an ability to rapidly assess the validity of alleged thefts.

(f) If an abrupt loss detection estimate exceeds five formula kilograms of SSNM:

(1) Material processing operations related to the alarm must by suspended until completion of planned alarm resolution activities, unless the suspension of operations will adversely affect the ability to resolve the alarm. Operation of continuous processes may continue for 24 hours from the time of the occurrence of the alarm during which time checks shall be made for mistakes in records or calculations that could have caused the alarm.

(2) Within 24 hours, the licensee shall notify the Domestic Safeguards and Regional Oversight Branch of the Division of Safeguards and Transportation, Office of Nuclear Material Safety and Safeguards by telephone on (301) 492-3379 that an MC&A alarm resolution procedure has been initiated.

[52 FR 10040, Mar. 30, 1987, as amended at 54 FR 6877, Feb. 15, 1989; 55 FR 5979, Feb. 21, 1990]

§ 74.59 Quality assurance and accounting requirements.

(a) Licensees subject to § 74.51 shall provide the quality assurance and accounting capabilities described in paragraphs (b) through (h) of this section.

(b) *Management structure.* The licensee shall:

(1) Establish and maintain a management structure that includes clear overall responsibility for planning, coordinating, and administering material control and accounting functions, independence of material control and accounting functions from production responsibilities, and separation of functions such that the activities of one individual or organizational unit serve as controls over and checks of the activities of others; and

(2) Provide for the adequate review, approval, and use of those material control and accounting procedures that are identified in the approved FNMC plan as being critical to the effectiveness of the described system.

(c) *Personnel qualification and training.* The licensee shall assure that personnel who work in key positions where mistakes could degrade the effectiveness of the material control and accounting system are trained to maintain a high level of safeguards awareness and are qualified to perform their duties and/or responsibilities.

(d) *Measurements.* The licensee shall establish and maintain a system of measurements sufficient to:

(1) Substantiate the plutonium element and uranium element and fissile isotope content of all SSNM received, produced, transferred between areas of custodial responsibility, or inventory, or shipped, discarded, or otherwise removed from inventory;

(2) Enable the estimation of the standard deviation associated with each measured quantity; and

(3) Provide the data necessary for performance of the material control tests required by § 74.53(b).

(e) *Measurement control.* The licensee shall assure that the quality of SSNM measurement systems and material processing practices is continually controlled to a level of effectiveness sufficient to satisfy the capabilities required for detection, response, and a
counting. To achieve this objective th
licensee shall:

(1) Perform engineering analyse
and evaluations of the design, installa
tion, preoperational tests, calibration
and operation of all measurement sy
tems to be used for MC&A purposes;

(2) Perform process and engineerin
tests using well characterized mater
als to establish or to verify the appli
cability of existing procedures fo
mixing and sampling SSNM and mai
taining sample integrity during tran
port and storage. Tests must be r
peated at least every three years,
any time there is a process modific
tion that alters the physical or chem
cal composition of the SSNM, o
whenever there is a change in th
sampling technique or equipment; an

(3) Generate current data on th
performance of measurement proces
es, including, as appropriate, valu
for bias corrections, uncertainties o
calibration factors, and random erro
standard deviations. The progra
must include:

(i) The onging use of standards fo
calibration and control of all applic
ble measurement systems. Calibration
must be repeated whenever an
change in a measurement syste
occurs which has the potential t
affect a measurement result or whe
program data, generated by tests pe
formed at a pre-determined frequenc
indicate a need for recalibration. Ca
brations and tests must be based o
standards with traceability to nation
standards or nationally accepted mea
urement systems; and

(ii) A system of control measur
ments to provide current data for th
estimation of the standard deviatio
that are significant contributors to th
measurement uncertainties associat
with shipper/receiver differences, i
ventory differences, and process di
ferences.

(4) Utilize the data generated durin
the current material balance peri
for the estimation of the standa
error of the inventory differen
(SEID) and the standard error of th
process differences. Calibration a
measurement error data collected a
used during immediately precedi
material balance periods may be co

bined with current data provided that the measurement systems are in statistical control and the combined data are utilized in characterizing the unknowns.

(5) Evaluate all program data and information to assure that measurement performance is so controlled that the SEID estimator is less than 0.1 percent of active inventory.

(6) Apply bias corrections by an appropriate procedure whereby:

(i) Bias corrections are applied to individual items if for any measurement system the relative bias estimate exceeds twice the standard deviation of its estimator, the absolute bias estimate exceeds 50 grams of SSNM when applied across all affected items, and the absolute bias estimate on an individual item basis exceeds the rounding error of affected items; and

(ii) All biases (regardless of significance) that are not applied as corrections to individual items are applied as a correction to the inventory difference.

(7) Investigate and take corrective action, as appropriate, to identify and reduce associated measurement biases when, for like material types (i.e., measured by the same measurement system), the net cumulative shipper/receiver differences accumulated over a six-month period exceed the larger of one formula kilogram or 0.1 percent of the total amount received.

(8) Establish and maintain a statistical control system designed to monitor the quality of each type of program measurement. Control limits must be established to be equivalent to levels of significance of 0.05 and 0.001. Control data exceeding the 0.05 limits must be investigated and corrective action taken in a timely manner. Whenever a single data point exceeds the 0.001 control limit, the measurement system in question must not be used for material control and accounting purposes until it has been brought into control at the 0.05 level.

(f) *Physical inventory.* The licensee shall:

(1) Except as required by part 75 of this Chapter, perform a physical inventory at least every six calendar months and within 45 days after the start of the ending inventory:

(i) Calculate the inventory difference, estimate the standard error of the inventory difference, and investigate and report any SEID estimate of 0.1 percent or more of active inventory and any ID that exceeds three times the standard error and 200 grams of plutonium or uranium-233 or 300 grams of uranium-235;

(ii) If required to perform an investigation pursuant to paragraph (f)(1)(i) of this section, evaluate the significance of the inventory difference relative to expected performance as determined from an analysis of an appropriate sequence of historical inventory differences;

(iii) Investigate and report to the Domestic Licensing and Regional Oversight Branch of the Division of Safeguards and Transportation, Office of Nuclear Material Safety and Safeguards and difference that exceeds three times the standard deviation determined from the sequential analysis;

(iv) Perform a reinventory if directed to do so by the Commission; and

(v) Reconcile and adjust the plant and subsidiary book records to the results of the physical inventory.

(2) Implement policies, practices, and procedures designed to ensure the quality of physical inventories. These must include:

(i) Development of procedures for tamper-safing of containers or vaults containing SSNM not in process that include adequate controls to assure the validity of assigned SSNM values;

(ii) Maintenance of records of the quantities of SSNM added to and removed from process;

(iii) Requirements for signed documentation of all SSNM transfers between areas with different custodial responsibility that reflect all quantities of SSNM transferred;

(iv) Means for control of and accounting for internal transfer documents;

(v) Cutoff procedures for transfers and processing so that all quantities of SSNM are inventoried and none are inventoried more than once;

(vi) Cutoff procedures for records and reports so that all transfers for the inventory and material balance interval and no others are included in the records;

(vii) Inventory procedures for sealed sources and containers or vaults containing SSNM that assure reliable identification and quantification of contained SSNM;

(viii) Inventory procedures for in-process SSNM that provide for measurement of quantities not previously measured for element and isotope, as appropriate, and remeasurement of material previously measured but whose validity has not been assured by tamper-safing or equivalent protection; and

(ix) Written instructions for conducting physical inventories that detail assignments, responsibilities, and preparation for and performance of an inventory.

(g) *Accounting.* The licensee shall establish auditable records sufficient to demonstrate that the requirements of §§ 74.53, 74.55, 74.57, and 74.59 have been met and retain those records for at least three years unless a longer retention period is required by part 75 of this Chapter.

(h) *Internal control.* The licensee shall:

(1) Establish procedures for shipping and receiving SSNM that provide for:

(i) Accurate identification and measurement of the quantities shipped and received;

(ii) Review and evaluation of shipper/receiver differences on an individual container or lot basis, as appropriate, on a shipment basis, and on a batch basis when required by part 75 of this Chapter;

(iii) Investigation and corrective action when shipper/receiver differences exceed twice the estimated standard deviation of the difference estimator and the larger of 0.5 percent of the amount of SSNM in the container, lot, or shipment, as appropriate, or 50 grams of SSNM; and

(iv) Documentation of shipper/receiver difference evaluations, investigations, and corrective actions.

(2) Establish a scrap control program that assures that:

(i) Internally generated scrap and scrap from other licensees or contractors is segregated until accountability is established; and

(ii) Any scrap measured with a standard deviation greater than five percent of the measured amount is covered so that the results are seg gated by inventory period and receiv within six months of the end of the i ventory period in which the scrap w generated except where it can be de onstrated that the scrap measureme uncertainty will not cause noncomp ance with § 74.59(e)(5).

(3) Incorporate checks and balanc in the MC&A system sufficient to co trol the rate of human errors in ma rial control and accounting inform tion.

(4) Perform independent asse ments at least every 12 months th assess the performance of the MC& system, review its effectiveness, a document management's action prior assessment recommendatio Assessments must include an evalu tion of the measurement control pr gram of any outside contractor labor tory performing MC&A measuremen for a licensee, unless the contractor also subject to the requirements § 74.59(e).

(5) Assign custodial responsibility a manner that ensures that such r sponsibility can be effectively execu ed for all SSNM possessed under l cense.

[52 FR 10040, Mar. 30, 1987, as amended 54 FR 6878, Feb. 15, 1989; 55 FR 5979, Fe 21, 1990]

Subpart F—Enforcement

§ 74.81 Inspections.

(a) Each licensee shall afford to th Commission at all reasonable times o portunity to inspect special nucle material and the premises and faci ties wherein special nuclear material used, produced, or stored.

(b) Each licensee shall make avai able to the Commission for inspectio upon reasonable notice, records ke by the licensee pertaining to its r ceipt, possession, use, acquisitio import, export, or transfer of speci nuclear material.

(c)(1) In the case of fuel cycle faci ties where nuclear reactor fuel is fab cated or processed, each licensee sha upon request by the Director, Offic of Nuclear Material Safety and Saf guards or the appropriate NRC R gional Administrator, provide rent-free office space for the exclusive use of Commission inspection personnel. Heat, air conditioning, light, electrical outlets, and janitorial services shall be furnished by each licensee. The office shall be convenient to and have full access to the facility, and shall provide the inspector both visual and acoustic privacy.

(2) For a site with a single fuel facility licensed pursuant to part 70 of this chapter, the space provided shall be adequate to accommodate a full-time inspector, a part-time secretary, and transient NRC personnel. It will be generally commensurate with other office facilities at the site. A space of 250 square feet either within the site's office complex or in an office trailer or other on-site space is suggested as a guide. For sites containing multiple fuel facilities, additional space may be requested to accommodate additional full-time inspector(s). The office space that is provided shall be subject to the approval of the Director, Office of Nuclear Material Safety and Safeguards or the appropriate NRC Regional Administrator. All furniture, supplies, and communication equipment will be furnished by the Commission.

(3) The licensee shall afford any NRC resident inspector assigned to their site, or other NRC inspectors identified by the Director of the Office of Nuclear Material Safety and Safeguards as likely to inspect the facility, immediate unfettered access, equivalent to access provided regular plant employees, following proper identification and compliance with applicable access control measures for security, radiological protection, and personal safety.

[50 FR 7579, Feb. 25, 1985, as amended at 52 FR 31613, Aug. 21, 1987; 54 FR 6878, Feb. 15, 1989; 55 FR 5979, Feb. 21, 1990]

§ 74.82 Tests.

Each licensee shall perform, or permit the Commission to perform, any tests that the Commission deems appropriate or necessary for the administration of the regulations in this part, including tests of:

(a) Special nuclear material;

(b) Facilities where special nuclear material is utilized, produced, or stored; and

(c) Other equipment and devices used in connection with the production, utilization, or storage of special nuclear material.

§ 74.83 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provisions of the Atomic Energy Act of 1954, as amended, or Title II of the Energy Reorganization Act of 1974, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

PART 75—SAFEGUARDS ON NUCLEAR MATERIAL—IMPLEMENTATION OF US/IAEA AGREEMENT

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75.51 Enforcement.

AUTHORITY: Secs. 53, 63, 103, 104, 122, 161, 68 Stat. 930, 932, 936, 937, 939, 948, as amended (42 U.S.C. 2073, 2093, 2133, 2134, 2152, 2201); sec. 201, as amended, 88 Stat. 1242, as amended (42 U.S.C. 5841).

Section 75.4 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), the provisions of this part are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 45 FR 50711, July 31, 1980, unless otherwise noted.

GENERAL PROVISIONS

§ 75.1 Purpose.

This part establishes a system of nuclear material accounting and nuclear material control to implement, with respect NRC and Agreement State licensees, the Agreement between the United States and the International Atomic Energy Agency (IAEA) for the Application of Safeguards in the United States.

§ 75.2 Scope.

(a) Except as provided in § 75.3, the requirements in this part apply to all persons licensed by the Commission or Agreement States to possess source or special nuclear material at an instal
tion, as defined in § 75.4(k), on t
United States eligible list. They al
apply, to the extent specified
§§ 50.78, 40.31(g), 70.21(g), and 150.1
of this chapter, to holders of constru
tion permits and to persons w
intend to receive source material
special nuclear material.

(b) The United States eligible list
a list of installations eligible for IA
safeguards under the US/IAEA Sa
guards Agreement which the Secr
tary of State or his designee files wi
the Commission, a copy of which sh
be available for inspection at the Co
mission's Public Document Room
2120 L Street NW, Washington, D.
In accordance with the provisions
the Agreement, there will be exclud
from the United States eligible list:

(1) Activities having direct nation
security significance.

(2) Mining and ore processing acti
ties.

[45 FR 50711, July 31, 1980, as amended
53 FR 43422, Oct. 27, 1988]

§ 75.3 Exemptions.

(a) The Commission may, upon
plication of any interested person
upon its own initiative, grant exem
tions from the requirements of th
part that it determines are authoriz
by law and consistent with the Agre
ment, are not inimical to the comm
defense and security, and are othe
wise in the public interest.

(b) Without limiting the generali
of paragraph (a) of this section, an e
emption under this section may
granted with respect to nuclear ma
rial of the following types:

(1) Special nuclear material in gra
quantities or less as a sensing comp
nent in instruments;

(2) Nuclear material used in non-n
clear activities, if such nuclear mate
al is recoverable, and

(3) Plutonium with an isotopic co
centration of plutonium-238 exceedi
80 percent.

§ 75.4 Definitions.

As used in this part:

(a) Unless otherwise defined in th
section, the terms defined in §§ 40

50.2, and 70.4 of this chapter have the same meaning when used in this part.

(b) *Agreement*, except as used in the term *Agreement State*, means the Agreement between the United States and the International Atomic Energy Agency for the Application of Safeguards in the United States. Unless otherwise specified, the term refers both to the principal text of the Agreement, consisting of 90 articles, and to the Protocol thereto.

(c) *Agreement State* as designated in part 150 of this chapter means any State with which the Commission has entered into an effective agreement under subsection 274b. of the Act.

(d) *Batch* means a portion of nuclear material handled as a unit for accounting purposes at a key measurement point and for which the composition and quantity are defined by a single set of specifications or measurements. The nuclear material may be in bulk form or contained in a number of separate items.

(e) *Containment*[1] means:

(1) The application of any devices designed to limit the mobility of nuclear material, the access of personnel, or the unauthorized operation of equipment such as transfer valves and sampler lines; and

(2) Structural elements, including the design of buildings and layout of equipment, which minimize and control access to nuclear material.

(f) *Effective kilogram* means a unit used in safeguarding nuclear material. The quantity is:

(1) For special nuclear material: The amount specified in § 70.4(t) of this chapter.

(2) For source material: The amount specified in § 40.4(q) of this chapter.

(g) *Facility Attachment* means that portion of the Subsidiary Arrangements to the principal text of the Agreement that pertains to a particular installation that has been identified pursuant to Article 39(b) thereof.

(h) *IAEA* means the International Atomic Energy Agency or its duly authorized representatives.

(i) *IAEA material balance area* means an area established for IAEA accounting purposes, such that:

(1) The quantity of nuclear material in each transfer into or out of each material balance area can be determined; and

(2) The physical inventory of nuclear material in each material balance area can be determined when necessary in accordance with specified procedures.

(j) *Identification under the Agreement* means identification by the IAEA pursuant to Article 39(b) of the principal text of the Agreement or Article 2(a) of the Protocol.

(k) *Installation* means:

(1) A production facility or utilization facility as defined in § 50.2 of this chapter;

(2) A uranium hexafluoride production plant;

(3) A fuel fabrication plant;

(4) An independent spent fuel storage installation (ISFSI) or a monitored retrievable storage installation (MRS) as defined n § 72.3 of this chapter; or

(5) Any location where the possession of more than one effective kilogram of nuclear material is licensed pursuant to parts 40 or 70 of this chapter, or pursuant to an Agreement State license.

(l) *Inventory change* means an increase or decrease, established in accordance with the procedures required by this part, in terms of batches of nuclear material in an IAEA material balance area.

(m) *Key measurement point* means a location where nuclear material appears in such a form that it may be measured to determine material flow or inventory. Key measurement points thus include, but are not limited to, the inputs and outputs (including measured discards) and storages in material balance areas.

(n) *Nuclear material* means any source material or any special nuclear material.

(o) *Ore processing* means uranium milling and other procedures for producing U_3O_8 from uranium ore or from uranium concentrates produced as a byproduct from phosphate or other non-nuclear chemical production plants.

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[1] The term refers to nuclear material safeguards rather than radiological protection.

(p) *Surveillance* means instrumental or human observation to indicate or detect the movement of nuclear material.

(q) *Transitional Facility Attachment* means that portion of the Transitional Subsidiary Arrangements to the Protocol to the Agreement that pertains to a particular installation that has been identified pursuant to Article 2(a) thereof.

(r) *United States eligible list* means the list of installations described in § 75.2 of this part.

[45 FR 50711, July 13, 1980, as amended at 46 FR 58283, Dec. 1, 1981; 53 FR 31683, Aug. 19, 1988]

§ 75.5 Interpretations.

Except as authorized specifically by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 75.6 Maintenance of records and delivery of information, reports, and other communications.

(a) All information and reports required to be submitted pursuant to the provisions of this part and other communications concerning the regulations in this part shall be delivered as follows:

Item	Section	Manner of deliver
IAEA Representative	75.7	To the Cognizant Director.
Facility Attachments	75.8	Do.
Installation Information	75.11	Do.
Sensitive Information	75.12	Do.
Verification of Installation Information.	75.13	Do.
Supplemental Information.	75.14	Do.
General Requirements (Amplification).	75.31	As specified in the request.
Initial Inventory Report	75.32	In accordance with printed instructions for preparation of DOE/NRC Form-742.
Inventory Change Reports.	75.34	In accordance with printed instructions for preparation of DOE/NRC Form-741, and -740M.
Material Status Reports.	75.35	In accordance with printed instructions for preparation of DOE/NRC Form-742, -742C, and -740M.
Special Reports	75.36	To the Regional Offi of the NRC.
Inspection	75.42	Do.
Transfers (advance notification).	75.43	Do.
Delays	75.44	Do.
Other Communications		To the cognizant Director.

(b) If an installation is a nucle
power plant or a non-power reactor fo
which a construction permit or operat
ing license has been issued, whether o
not a license to receive and possess nu
clear material at the installation ha
been issued, the cognizant Director i
the Director, Office of Nuclear Rea
tor Regulation. For all other installa
tions, the cognizant Director is the D
rector, Office of Nuclear Materi
Safety and Safeguards.

(c) Written communications to th
Directors, Office of Nuclear Materi
Safety and Safeguards, or Office o
Nuclear Reactor Regulation may b
delivered by mail, addressed to the ap
propriate Director at the U.S. Nucle
Regulatory Commission, Washingto
DC 20555, or may be addressed to th
appropriate Director and delivered
person at the Commission's offices
2120 L Street NW, Washington, DC,
11555 Rockville Pike, Rockville, MD.

(d) Communications to the Region
Office of the NRC shall be address
to the office listed in Appendix A
part 73 of this chapter for the regi
in which the installation is located.

(e) Each record required by this pa
must be legible throughout the rete
tion period specified by each Commi
sion regulation. The record may be t
original or a reproduced copy or a m
croform provided that the copy or m
croform is authenticated by autho
ized personnel and that the microfor
is capable of producing a clear co
throughout the required retenti
period. The record may also be sto

in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

[45 FR 50711, July 31, 1980, as amended at 52 FR 31613, Aug. 21, 1987; 53 FR 6139, Mar. 1, 1988; 53 FR 19262, May 27, 1988; 53 FR 43422, Oct. 27, 1988]

§ 75.7 IAEA representatives.

Each licensee subject to the provisions of this part shall recognize as a duly authorized representative of the IAEA any person bearing IAEA credentials who at the time of a visit or inspection, or of any visit or inspection within the preceding two years, is or was accompanied by a Commission employee, provided, that if the IAEA representative is not accompanied by a Commission employee, his credentials shall have been confirmed by the Commission in writing for the particular visit or inspection or for a specified term. The licensee shall immediately communicate with the Commission, by telephone, with respect to the credentials of any other person who claims to be an IAEA representative and shall accept telephone confirmation of such credentials by the Commission.

§ 75.8 Facility attachments.

(a) The Facility Attachment or Transitional Facility Attachment will document the determinations referred to in § 75.11 and will contain such other provisions as may be appropriate.

(b) The Commission will issue license amendments, as necessary, for implementation of the principal text of the Agreement and the Facility Attachment (as amended from time to time). The license amendments through reference to the Facility Attachment or Transitional Facility Attachment, or otherwise, will specify:

(1) IAEA material balance areas;

(2) Types of modifications with respect to which information is required, under § 75.11, to be submitted in advance;

(3) Procedures, as referred to in § 75.21;

(4) The extent to which isotopic composition must be included in batch data (under § 75.22) and advance notification (§ 75.45);

(5) Items to be reported in the concise notes accompanying inventory change reports, as referred to in § 75.34;

(6) Loss limits and changes in containment, as referred to in § 75.36 (pertaining to special reports);

(7) Actions required to be taken, in accordance with § 75.42(e)(2), at the request of an IAEA inspector;

(8) Procedures to be used for documentation of requests under § 75.46 (pertaining to expenses); and

(9) Such other matters as may be appropriate.

(c) The Commission will also issue license amendments, as necessary, for implementation of the Protocol to the Agreement and the Transitional Facility Attachment (as amended from time to time).

(d) License amendments will be made in accordance with the Commission's rules of practice (part 2 of this chapter). Specifically, if the licensee does not agree to an amendment, an order modifying the license would be issued under § 2.204.

(e) Subject to constraints imposed by the Agreement, the Commission will afford the licensee a reasonable opportunity to participate in the development of the Facility Attachment or Transitional Facility Attachments applicable to the licensee's installation, and any amendments thereto, and to review and comment upon any such instrument before it has been agreed to by the United States. The Commission will provide to the licensee a copy of any such instrument that has been completed in accordance with the Agreement.

§ 75.9 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction

Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0055.

(b) The approved information collection requirements contained in this part appear in §§ 75.7, 75.12, 75.21, 75.22, 75.23, 75.24, 75.31, 75.36, 75.43, 75.44, and 75.45.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In §§75.11 and 75.14, Form N-71 is approved under control number 3150-0056.

(2) In §§75.31, 75.32, 75.33, and 75.35, Form NRC-742 is approved under control number 3150-0004.

(3) In §§75.33 and 75.34, Form NRC-741 is approved under control number 3150-0003.

(4) In §§75.34 and 75.35, Form NRC-740M is approved under control number 3150-0057.

(5) In §75.35, Form NRC-742C is approved under control number 3150-0058.

[49 FR 19628, May 9, 1984]

INSTALLATION INFORMATION

§ 75.11 Installation information.

(a) Each licensee subject to the provisions of this part shall submit installation information, in response to a written request from the Commission, with respect to any installation which the Commission indicates has been identified under the Agreement and in which the licensee carries out licensed activities. (The Commission request shall state whether the installation has been identified under Article 39(b) of the principal text of the Agreement or Article 2(a) of the Protocol.) The licensee shall submit such information to the Commission within the period, which shall be at least 45 days, specified in the Commission's request.

(b) Installation information includes: (1) The identification of the installation, stating its general character, purpose, nominal capacity (thermal power level, in the case of power reactors), and geographic location, and the name and address to be used for routine purposes;

(2) A description of the general arrangement of the installation with reference, to the extent feasible, to the form, location and flow of nuclear material, and to the general layout of important items of equipment which use, produce, or process nuclear material;

(3) A description of features of the installation relating to material accounting, containment, and surveillance; and

(4) A description of the existing and proposed procedures at the installation for nuclear material accounting and control, with special reference to material balance areas established by the licensee, measurement of flow, and procedures for physical inventory taking. (As part of this description, the licensee may identify a process step involving information which it deems to be commercially sensitive and for which it proposes that a special material balance area be established so as to restrict IAEA access to such information.)

(c) Each licensee shall thereafter submit to the Commission information with respect to any modification at the installation affecting the information referred to in paragraph (a) of this section. Such information shall be submitted:

(1) With respect to a modification of a type described in the license conditions: At least 70 days before the modification is scheduled to be completed, except that in an emergency or other unforeseen situation a shorter period may be approved by the Commission.

(2) With respect to any other modification relevant to the application of the provisions of the Agreement: At the time the first inventory change report is submitted after the modification is completed.

(d) The information specified in paragraphs (a) and (c) of this section shall be prepared on Form N-71 or other forms supplied by the Commission (including appropriate IAEA Design Information Questionnaire forms). The information shall be sufficiently detailed to enable knowledgeable determinations to be made in the development of Facility Attachments or amendments thereto, including:

(1) Identification of the features of installations and nuclear material relevant to the application of safeguards to nuclear material in sufficient detail to facilitate verification;

(2) Determination of IAEA material balance areas to be used for IAEA accounting purposes and selection of those strategic points which are key measurement points and which will be used to determine flow and inventory of nuclear material;

(3) Establishment of the nominal timing and procedures for taking of physical inventory of nuclear material for IAEA accounting purposes;

(4) Establishment of the records and reports requirements and records evaluation procedures;

(5) Establishment of requirements and procedures for verification of the quantity and location of nuclear material; and

(6) Selection of appropriate combinations of containment and surveillance methods and techniques at the strategic points at which they are to be applied.

(e) The licensee's detailed security measures for the physical protection of an installation shall be included in the installation information only when and to the extent specifically requested by the Commission.

[45 FR 50711, July 31, 1980, as amended at 49 FR 19628, May 9, 1984]

§ 75.12 Communication of information to IAEA.

(a) Except as otherwise provided in this section, the Commission will furnish to the IAEA all information submitted under §§ 75.11 and 75.14.

(b)(1) A licensee may request that information of particular sensitivity, which it customarily holds in confidence, not be transmitted physically to the IAEA. A licensee who makes such a request should, at the time the information is submitted, identify the pertinent document or part thereof and make a full statement of the reasons supporting the request. The licensee shall retain a copy of the request and all documents related to the request as a record until the Commission terminates the license for each installation involved with the request or until the Commission notifies the licensee that the licensee is no longer under the agreement. Superseded material must be retained for three years after each change is made.

(2) In considering such a request, it is the policy of the Commission to achieve an effective balance between legitimate concerns of licensees, including protection of the competitive position of the owner of the information, and the undertaking of the United States to cooperate with the IAEA to facilitate the implementation of the safeguards provided for in the Agreement. The Commission will take into account the obligation of the IAEA to take every precaution to protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Agreement.

(3) If a request is denied, the Commission will notify the applicant with a statement of reasons. The notice of denial will specify a time, not less than ten (10) days after the date of the notice, when the information will be transmitted physically to the IAEA.

(4) If a request is granted, the Commission will determine a location where the information will remain readily available for examination by the IAEA and will so inform the licensee. The licensee shall retain this information as a record until the Commission terminates the license for the installation involved with the request or until the Commission notifies the licensee that the licensee is no longer under the agreement. Superseded material must be retained for three years after each change is made.

(c) A request made under § 2.790(b) of this chapter will not be treated as a request under this section unless the application makes specific reference to this section, nor shall a determination to withhold information from public disclosure necessarily require a determination that such information not be transmitted physically to the IAEA.

(d) Where consistent with the Agreement, the Commission may at its own initiative, or at the request of a licensee, determine that any information submitted under §§ 75.11 and 75.14 shall not be physically transmitted to, or made available for examination by, the IAEA.

[45 FR 50711, July 31, 1980, as amended at 53 FR 19262, May 27, 1988]

§ 75.13 Verification.

(a) Each licensee subject to the provisions of this part shall afford to the IAEA during normal working hours, pursuant to prior notice from the Commission, opportunity to visit the installation to verify the installation information submitted under § 75.11. The licensee may accompany IAEA representatives who visit the installation for such purpose, provided that the IAEA representatives shall not be delayed or otherwise impeded in the exercise of their functions.

(b) The notice from the Commission may be given by telephone or in writing and shall provide the licensee actual knowledge of the visit at least three days in advance. The licensee should consult with the Commission immediately if the visit would unduly interfere with its activities or if its key personnel cannot be available.

(c) The Commission will to the extent feasible, unless the licensee agrees otherwise, assign an employee to accompany an IAEA representative engaged in a visit described in this section.

§ 75.14 Supplemental information.

(a) At the time information is submitted by a licensee under § 75.11(a) (Form N-71), and promptly whenever changes are made, such licensee shall submit to the Commission:

(1) Information on organizational responsibility for material accounting and control, including information with respect to separation of functions to provide internal checks and balances.

(2) Health and safety rules to be observed by the IAEA inspectors at the installation.

(b) Information submitted pursuant to this section shall indicate that the information is being supplied for purposes of implementation of the US/IAEA Safeguards Agreement.

[45 FR 50711, July 31, 1980, as amended at 49 FR 19629, May 9, 1984]

MATERIAL ACCOUNTING AND CONTROL

§ 75.21 General requirements.

(a) Each licensee who has been given notice by the Commission in writing that its installation has been identified under the Agreement shall establish, maintain, and follow written material accounting and control procedures. The licensee shall retain as a record current material accounting and control procedures until the Commission terminates the license for the installation involved with the request or until the Commission notifies the licensee that the licensee is no longer under the agreement. Superseded material must be retained for three years after each change is made.

(b) The material accounting and control procedures required by paragraph (a) of this section shall include, as appropriate:

(1) A measurement system for the determination of the quantities of nuclear material received, produced, shipped, lost or otherwise removed from inventory, and the quantities on inventory;

(2) The evaluation of precision and accuracy of measurements and the estimation of measurement uncertainty;

(3) Procedures for identifying, reviewing and evaluating differences in shipper/receiver measurements;

(4) Procedures, including frequency, for taking a physical inventory;

(5) Procedures for the evaluation of accumulations of unmeasured inventory and unmeasured losses; and

(6) A system of accounting and operating records.

(c)(1) The procedures shall, unless otherwise specified in license conditions, conform to the installation information submitted by the licensee under § 75.11.

(2) Until installation information has been submitted by the licensee, the procedures shall be sufficient to document changes in the quantity of nuclear material in or at its installation. Observance of the procedures described in § 40.61 or § 70.51 of this chapter (or the corresponding provisions of the regulations of an Agreement State) by any licensee subject

thereto shall constitute compliance with this paragraph (c)(2).

(d) The requirements of this section are in addition to any other requirements of this chapter, relating to material accounting and control, that may apply to the licensee.

[45 FR 50711, July 31, 1980, as amended at 53 FR 19263, May 27, 1988]

§ 75.22 Accounting records.

(a) The accounting records required by § 75.21 shall include, for each IAEA material balance area:

(1) All inventory changes, so as to permit a determination of the book inventory at any time;

(2) All measurement results that are used for determination of nuclear material quantities; and

(3) All adjustments and corrections that have been made with respect to inventory changes, book inventories and physical inventories.

(b) The records shall show, for each batch of nuclear material: material identification, batch data and source data. The *batch data* means a separate listing of the total weight of each element of nuclear material (including, as specified in the license conditions, isotopic composition for special nuclear material) with plutonium and enriched uranium measured in grams and natural or depleted uranium and thorium measured in kilograms. The *source data* are the data, recorded during measurement or calibration or used to derive empirical relationships, which identify nuclear material and provide batch data.

(c) For each inventory change, the records shall show the date of the inventory change and, when appropriate, (1) the originating IAEA material balance area or the shipper, and (2) the receiving IAEA material balance area or the recipient.

§ 75.23 Operating records.

The operating records required by § 75.21 shall include, as appropriate, for each IAEA material balance area:

(a) Those operating data which are used to establish changes in the quantities and composition of nuclear material;

(b) The data obtained from the calibration of tanks and instruments and from sampling and analyses, the procedures employed to control the quality of measurements, and the derived estimates of random and systematic error;

(c) A description of the sequence of the actions taken in preparing for, and in taking, a physical inventory, to ensure that it is correct and complete; and

(d) A description of the actions taken to ascertain the magnitude and cause of any accidental or unmeasured loss that might occur.

§ 75.24 Retention of records.

The records referred to in §§ 75.22 and 75.23 shall be retained by the licensee for at least five years.

REPORTS

§ 75.31 General requirements.

Each licensee who has been given notice by the Commission in writing that its installation has been identified under the Agreement shall make an initial inventory report, on DOE/NRC Form-742, and thereafter shall make accounting reports, with respect to such installation; and, in addition, licensees who have been given notice, pursuant to § 75.41, that their installations are subject to the application of IAEA safeguards, shall make the special reports described in § 75.36. Such reports shall be based on the records kept in accordance with § 75.21. At the request of the Commission, the licensee shall amplify or clarify any report with respect to any matter relevant to implementation of the Agreement. Such amplification or clarification shall be in writing and shall be submitted, to the address specified in the request, within twenty (20) days or such other time as may be specified by the Commission.

[49 FR 19629, May 9, 1984]

§ 75.32 Initial inventory report.

(a) The initial inventory reporting date shall be the last day of the calendar month in which the Commission gives the licensee notice that an initial inventory report is required.

(b) The initial inventory report, to be submitted to the Commission on

DOE/NRC Form-742, Material Balance Report, in accordance with printed instructions for completing the form, shall show the quantities of nuclear material contained in or at an installation as of the initial inventory reporting date. The information in the initial inventory report may be based upon the licensee's book record.

(c) The initial inventory report shall be dispatched within twenty (20) days after the initial inventory reporting date.

§ 75.33 Accounting reports.

(a) The accounting reports for each IAEA material balance area shall consist of (1) inventory change reports showing all changes in the inventory of nuclear material on DOE/NRC Form-741 and (2) material status reports showing the material balance based on a physical inventory of nuclear material actually present on DOE/NRC Form-742.

(b) The reports shall be based on data available as of the date of reporting and may be corrected at a later date, as required.

[45 FR 50711, July 31, 1980, as amended at 49 FR 19629, May 9, 1984]

§ 75.34 Inventory change reports.

(a) Inventory change reports, to be submitted on DOE/NRC Form-741, Nuclear Material Transaction Report, and prepared in accordance with printed instructions for completing the form, shall specify identification and batch data for each batch of nuclear material, the date of the inventory change, and, as appropriate, (1) the originating IAEA material balance area or the shipper and (2) the receiving IAEA material balance area or the recipient. Each licensee who receives special nuclear material from a foreign source shall complete both the supplier's and receiver's portion of DOE/NRC Form-741; perform independent tests to assure the accurate identification and measurement of the material received including its weight and enrichment; and indicate the results of these tests on the receiver's portion of the form.

(b) Inventory change reports, when appropriate, will be accompanied by concise notes submitted on DOE/NRC Form-740M, Concise Note, and prepared in accordance with printed instructions for completing the form:

(1) Explaining the inventory changes on the basis of the operating records provided for under § 75.23; and

(2) Describing, to the extent specified in the license conditions, the anticipated operational program for th installation, including particularly, bu not exclusively, the schedule fo taking physical inventory.

[45 FR 50711, July 31, 1980, as amended a 45 FR 73012, Nov. 4, 1980]

§ 75.35 Material status reports.

(a) A material status report shall b submitted for each physical inventor which is taken as part of the materi accounting and control procedures r quired by § 75.21. The material statu report shall include a Material Ba ance Report (on DOE/NRC Form-74 and, attached thereto, a Physical In ventory Listing (on DOE/NRC Form 742C) which lists all batches separat ly and specifies material identificatio and batch data for each batch. Als when appropriate, the material statu report shall be accompanied by DOE NRC Form-740M, Concise Note. Th reports specified in this section sha be prepared and submitted in accor ance with the printed instructions f completing the referenced forms.

(b) Unless otherwise specified in th license conditions, material status r ports shall be dispatched as soon possible and in any event within thir (30) days after the start of the phys cal inventory.

§ 75.36 Special reports.

(a) This section applies only to censees who have been given notic pursuant to § 75.41, that their install tions are subject to the application IAEA safeguards.

(b) Each licensee who is subject this section shall immediately make special report to the Commission, telephone (and also by telegrap mailgram, or facsimile), in those situ tions described in license conditions.

(c) The situations referred to paragraph (b) of this section inclu (1) the possibility of loss of nucle material in excess of specified lim and (2) unexpected changes in containment to the extent that unauthorized removal of nuclear material has become possible.

§ 75.37 Disclosure of reports to IAEA.

The Commission may communicate to the IAEA any reports submitted to it pursuant to this part or any information contained in such reports.

INSTALLATIONS DESIGNATED FOR IAEA SAFEGUARDS

§ 75.41 Designation.

The Commission, by written notice, will designate those installations which, in accordance with identifications made from time to time by the IAEA, under Article 39(b) of the principal text of the Agreement, are subject to the application of IAEA safeguards. Such notice shall be effective until the Commission informs the licensee, in writing, that its installation is no longer so designated. Whenever a previously-designated installation is no longer subject to the application of IAEA safeguards, the Commission will give the licensee prompt notice to that effect.

§ 75.42 Inspections.

(a) Each licensee who has been given notice pursuant to § 75.41 shall afford to the IAEA, at all reasonable times, opportunity to inspect its designated installation as provided in this section. Licensee representatives may accompany IAEA inspectors, provided that the IAEA inspectors are not thereby delayed or otherwise impeded in the exercise of their functions.

(b) As provided in the Agreement, an inspection may be ad hoc, routine, or special (or a combination of the foregoing). An inspection shall be deemed to be routine unless the Commission has specifically advised the licensee otherwise.

(c) The locations to which IAEA inspectors shall have access in the performance of inspections shall be as follows:

(1) Ad hoc inspections to verify information contained in the licensee's initial inventory report or to identify and verify changes in the situation which have occurred since the initial inventory reporting date: any location where the initial inventory report or any inspections carried out therewith indicate that nuclear material subject to safeguards under the Agreement may be present.

(2) Ad hoc inspections to identify and if possible verify the quantity and composition of the nuclear material referred to in notifications given under § 75.43(b) (pertaining to exports) or § 75.43(c) (pertaining to imports): Any place where such nuclear material may be located.

(3) Routine inspections: The strategic points referred to in § 75.11 (or, until such strategic points have been specified, to the locations referred to in paragraph (c)(1) of this section) and the records maintained pursuant to this part.

(4) Special inspections: Any of the locations specified above and any additional locations where the Commission, in response to an IAEA request, finds access to be necessary.

(d) Each licensee shall permit the IAEA, in conducting any such inspections, to:

(1) Examine the records kept pursuant to § 75.21 of this part;

(2) Observe that the measurements of nuclear material at key measurement points for material balance accounting are representative;

(3) Verify the functioning and calibration of instruments and other measuring control equipment.

(4) Observe that samples at key measurement points for material balance accounting are taken in accordance with procedures which produce representative samples, to observe the treatment and analysis of the samples, and to obtain duplicates of such samples; and

(5) Arrange to use the IAEA's own equipment for independent measurement and surveillance.

(e) Each licensee shall, at the request of an IAEA inspector:

(1) Ship samples taken for the IAEA's use, in accordance with applicable packaging and export licensing regulations, by the method of carriage and to the address specified by the inspector; and

(2) Take other actions contemplated by the Agreement, as evidenced by the

license conditions, including, for example:

(i) Enabling the IAEA to arrange to install its equipment for measurement and surveillance;

(ii) Enabling the IAEA to apply its seals and other identifying and tamper-indicating devices to containments;

(iii) Making additional measurements and taking additional samples for the IAEA's use;

(iv) Analyzing the IAEA's standard analytical samples;

(v) Using appropriate standards in calibrating instruments and other equipment; and

(vi) Carrying out other calibrations.

(f) Nothing in this section shall be deemed to require or authorize the licensee to carry out any operation that would otherwise constitute a violation of the terms of any applicable license, regulation, or order of the Commission.

(g) The Commission will to the extent feasible, unless the licensee agrees otherwise, assign an employee to accompany any IAEA representative engaged in an inspection described in this section.

(h) The Commission will normally provide a licensee advance notification of any inspection to be carried out by IAEA representatives. The licensee shall notify the Commission promptly, by telephone, whenever an IAEA inspector arrives at an installation without such advance notification.

§ 75.43 Circumstances requiring advance notification.

(a) Each licensee who has been given notice, pursuant to § 75.41, shall give advance written notification to the Commission with respect to the international and domestic transfers specified in this section.

(b) *Exports.* Notification shall be given of any proposed shipment of nuclear material for peaceful purposes under an export license issued pursuant to part 110 of this chapter, in an amount exceeding one effective kilogram, directly or indirectly to any non-nuclear-weapon state (as referred to in Article III(2) of the Treaty on the Non-Proliferation of Nuclear Weapons, 21 U.S.T. 483). If the licensee anticipates that it will make two or more shipments for peaceful purposes, within any period of 90 days, directly or indirectly to destinations in the same non-nuclear-weapon state, notification shall be given of each shipment if the aggregate quantity of nuclear material to be transferred exceeds one effective kilogram.[2]

(c) *Imports.* (1) Notification shall be given (to the fullest extent possible on the basis of available information) with respect to nuclear material which immediately prior to export is subject to safeguards, under an agreement with the IAEA, in the country from which the material, directly or indirectly, is being exported. Such notification is only required, however, if the quantities of nuclear material are as specified in paragraph (c)(2) of this section.

(2) Notification shall be given with respect to any proposed import of nuclear material described in paragraph (c)(1) of this section in an amount exceeding one effective kilogram. If the licensee anticipates that it will receive two or more shipments of such nuclear material, within any 90-day period from points of origin in the same country, notification shall be given with respect to each shipment if the aggregate quantity of such nuclear material to be received exceeds one effective kilogram.

(d) *Domestic transfers.* Notification shall be given with respect to any shipments of nuclear material (other than small quantities in the form of samples containing less than 0.01 effective kilogram per sample) to a non-eligible destination. As used in this paragraph, a *non-eligible destination* means any destination in the United States other than an installation on the United States eligible list.

§ 75.44 Timing of advance notification.

(a) Except as provided in paragraph (b) of this section, notification to the

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[2] All foreign countries, with the exception of the People's Republic of China, France, the Soviet Union, and the United Kingdom, are non-nuclear-weapon states. Treaty on the Non-Proliferation of Nuclear Weapons, Article IX(3).

Commission, where required by § 75.43, shall be given:

(1) In the case of exports and domestic transfers, at least twenty days in advance of the preparation of the nuclear material for shipment from the installation.

(2) In the case of imports, at least twelve days in advance of the unpackaging of nuclear material at the installation.

(b) For a particular receipt or shipment of nuclear material, the Commission will approve a shorter notice period than that specified by paragraph (a) of this section, for good cause, if it determines that observing the specified notification period would result in delay in shipment or unpackaging.

(c) The licensee shall inform the Commission, by phone, as soon as possible, with respect to any delay in the receipt (or unpackaging) or the shipment (or preparation for shipment) of nuclear material for which advance notification is required. New dates should be provided, if known.

§ 75.45 Content of advance notification.

(a) The notifications required by § 75.43 shall include the element weight of nuclear material being received or shipped, the chemical composition and physical form, the isotopic composition (to the extent specified by license conditions), the estimated date and place at the reporting installation where the nuclear material is to be unpackaged or prepared for shipment (and where the quantity and composition can be verified), the applicable IAEA material balance area at the reporting installation, the approximate number of items to be received or shipped, and the probable dates of receipt or shipment. The notification shall indicate that the information is being supplied pursuant to § 75.43.

(b) The notifications required with respect to export and import shipments shall also include

(1) If available, a general description of containers (including, in the case of exports, features that would permit sealing);

(2) Destination of export as authorized under an export license issued pursuant to part 110 of this chapter, or origin of import (by country and, if known, place);

(3) Means of transport; and

(4) Expected date and place of arrival in the destination country (for exports) or in the United States (for imports).

§ 75.46 Expenses.

(a) Under the Agreement, the IAEA undertakes to reimburse a licensee who has been given notice, pursuant to § 75.41, for extraordinary expenses incurred as a result of its specific request: *Provided*, That the IAEA has agreed in advance to do so. The Agreement also contemplates that in any case the IAEA will reimburse a licensee for the cost of making additional measurements or taking samples at the specific request of an IAEA inspector.

(b) The Commission will inform the licensee, in the license conditions or other written communication, of those items of extraordinary expense which the Agency has agreed in advance to reimburse.

(c) The Commission will inform the licensee, in the license conditions, of the procedures to be used to document:

(1) An IAEA inspector's request for making additional measurements or taking additional samples; and

(2) An IAEA request for a particular action by the licensee that will give rise to reimbursable extraordinary expense.

(d) The Commission will take such action as it finds to be appropriate to assist the licensee with respect to the reimbursement of any expense which, under the Agreement, is to be borne by the IAEA.

ENFORCEMENT

§ 75.51 Enforcement.

(a) An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or Title II of the Energy Reorganization Act of 1974, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

(b) The Commission may issue such orders to secure compliance with the provisions of this part or to prohibit any violation of such provisions as may be proper to protect the common defense and security. Enforcement actions, including proceedings instituted with respect to Agreement State licensees, will be conducted in accordance with the procedures set forth in part 2, subpart B of this chapter. Only NRC licensees, however, are subject to license modification, suspension, or revocation as such as a result of such enforcement actions.

PART 81—STANDARD SPECIFICATIONS FOR THE GRANTING OF PATENT LICENSES

General Provisions

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81.52 Appeals Board.
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Authority: Sec. 156, 161, 68 Stat. 947, 9 as amended (42 U.S.C. 2186, 2201); sec. 2 88 Stat. 1242, as amended (42 U.S.C. 584

Source: 38 FR 7318, Mar. 20, 1973, unle otherwise noted.

General Provisions

§ 81.1 Purpose.

The regulations of this part esta lish the standard specifications for t issuance of licenses to rights in inve tions covered by patents or patent plications vested in the United Stat of America, as represented by or in t custody of the Commission and oth patents in which the Commission h the right to accord or require t grant of licenses.

[40 FR 8793, Mar. 3, 1975]

§ 81.2 Definitions.

As used in this part:

(a) *Act* means the Atomic Ener Act of 1954 (68 Stat. 619), includi any amendments thereto;

(b) *Commission* means the Nucle Regulatory Commission as establish by the Act, or its duly authorized d ignee. The Assistant General Coun for Patents is the designee of t Commission under this subpart;

(c) *NRC invention* means an inve tion covered by a U.S. patent or pate application that is vested in the G ernment of the United States, as r resented by or in the custody of t Commission, or in which the Gove ment of the United States of Ameri as represented by the Commission, h the right to accord or require t grant of licenses where such inventi is designated by the Commission as propriate for the grant of a nonexc sive or exclusive license; and

(d) *To the point of practical applic tion* means to manufacture in the c of composition, machine or product, practice in the case of a process, or operate in the case of a machi under such conditions as to establ that the invention is being worked a that its benefits are reasonably acc sible to the public.

(e) *NRC foreign invention* means an invention covered by a patent, or an application for a patent, issued by a government or authority of a country other than the United States that is vested in the Government of the United States, as represented by the Commission.

[38 FR 7318, Mar. 20, 1973, as amended at 38 FR 8241, Mar. 30, 1973]

§ 81.3 Communications.

All communications concerning the regulations in this part, including applications for licenses, should be addressed to the U.S. Nuclear Regulatory Commission, Washington, DC 20555. Communications and reports may be delivered in person at the Commission's offices at 2120 L Street NW., Washington, DC, or at 11555 Rockville Pike, Rockville, MD.

[53 FR 6139, Mar. 1, 1988, as amended at 53 FR 43422, Oct. 27, 1988]

§ 81.4 Interpretations.

Except as specifically authorized by the Commission in writing and by § 81.53, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 81.8 Reporting, recordkeeping, and application requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980, as amended (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150–0121.

(b) The approved information collection requirements contained in this part appear in §§ 81.20, 81.32, and 81.40.

[55 FR 23422, June 8, 1990]

NRC-OWNED INVENTIONS—PATENTS AND APPLICATIONS

§ 81.10 Authority.

The regulations of this subpart governing the licensing or rights in NRC inventions are issued pursuant to the authority of the Commission under 42 U.S.C. 2186 (sec. 156 of the Act), 42 U.S.C. 2201g (sec. 161g. of the Act), and according to regulations issued by the Administrator of General Services pursuant to the Memorandum and Statement of Government Patent Policy issued by President Nixon on August 23, 1971 (36 FR 16887).

§ 81.11 Policy.

(a) The inventions covered by the U.S. patents and patent applications vested in the Government of the United States of America, as represented by or in the custody of the Commission, normally will best serve the public interest when they are developed to the point of practical application and made available to the public in the shortest time possible.

(b) The Commission generally prefers to make these inventions available to all interested parties through the granting of nonexclusive licenses. However, the Commission recognizes that to obtain commercial utilization of an invention, it may be necessary to grant an exclusive license for a limited period of time as an incentive for the investment of risk capital to achieve practical application of an invention.

(c) Whenever the Commission deems it appropriate to grant an exclusive license, the license will be negotiated on terms and conditions most favorable to the interests of the public and the Government. In considering the accord of such a license, due weight will be given to assisting small business and minority business enterprises, as well as economically depressed, low income and labor surplus areas within the United States.

(d) All licenses shall be by express written instruments. No license shall be granted or implied in an NRC invention except as provided for in these regulations or in patent rights articles under Commission procurement regulations, pursuant to the Act, or pursuant to any existing or future treaty or agreement between the United States and any foreign government or intergovernmental organization.

(e) No grant of a license under this subpart shall be construed to confer upon any licensee any immunity from the antitrust laws or from liability for patent misuse, and the acquisition and use of rights pursuant to this subpart shall not be immunized from the operation of State or Federal law by reason of the source of the grant.

(f) No grant of a license under this subpart shall be construed to confer any authorization under chapters 4, 5, 6, 7, 8, 10, or any other chapter or section of the Act (42 U.S.C., sec. 2011-2296) for which separate application for a license must be made in accordance with the Act or other Commission regulations.

§ 81.13 Publication of NRC inventions available for licensing.

(a) The Commission will have published periodically a list of the NRC inventions available for licensing under this subpart in the Federal Register, the U.S. Patent Office Official Gazette, and in one other publication which it is determined will best serve the public interest and, where advisable, in other publications.

(b) Interested persons may obtain copies of such lists by communicating with the Commission, Washington, DC 20555. Copies of U.S. patents may be obtained from the U.S. Patent Office. Copies of U.S. patent application specifications, or microfiche reproductions thereof, may be secured at reasonable cost from the National Technical Information Service (NTIS) or from the U.S. Patent Office with Commission approval.

[38 FR 7318, Mar. 20, 1973, as amended at 40 FR 8793, Mar. 3, 1975]

§ 81.20 Nonexclusive licenses.

(a) NRC inventions will normally be made available for the grant of nonexclusive licenses to responsible applicants who will practice the invention and make its benefits reasonably accessible to the public.

(1) The nonexclusive license will be revocable, at the option of the Commission, if the licensee does not
comply with all the terms and co
tions of the license agreement.

(2) The duration of the license s
be for a specified period and/or a
additional period as may be provi
for in the license agreement.

(3) The license shall require the
censee to bring the invention to
point of practical application withi
period specified in the license ag
ment, or as the period may be
tended by the Commission, and t
to continue to make the benefits
the invention reasonably accessible
the public.

(4) The license shall be granted
all of the fields of use of the inv
tion, or only such fields of use as m
be specified in the license agreeme
and throughout the United States
America, its territories and pos
sions, Puerto Rico, and the District
Columbia or in any lesser geograp
portion thereof as may be specified
the license agreement.

(5) The licensee shall be required
submit periodic reports on his effo
to bring the invention to a point
practical application and the extent
which he continues to make the be
fits of the invention reasonably acc
sible to the public. Unless otherw
specified in the license, such perio
reports will be required annually pr
to the anniversary date of the grant
the license. The reports shall cont
information within the license
knowledge, or which the licensee m
acquire under normal business pr
tices, pertaining to the commercial
being made of the invention,
other information which the Comm
sion may determine to be pertinent
the licensing activity of the Comm
sion and specified in the license agr
ment.

(6) Normally a royalty shall not
charged U.S. citizens and U.S. corpo
tions for nonexclusive licenses on N
inventions.

(7) The license may extend
wholly-owned subsidiaries of the
censee but shall be nonassignable,
otherwise nontransferable, with
approval of the Commission.

(8) The Commission may revoke
license (i) for failure of the licensee
bring the invention to the point
practical application or to continue

make the benefits of the invention reasonably accessible to the public, (ii) if the licensee defaults in making any periodic report required by the license, or (iii) if the licensee commits any breach of any covenant or agreement therein contained, or (iv) if the licensee willfully makes, or has made, a false statement of a material fact or omitted a material fact in the license application submitted pursuant to § 81.40(a) or in any report required by the license agreement.

(9) The Commission may restrict the licensee to the particular fields of use and/or geographical areas in which the licensee has brought the invention to the point of practical application and continue to make the benefits of the invention reasonably accessible to the public.

(10) Before revoking or restricting any license granted pursuant to this subpart, the Commission shall mail to the licensee and any sublicensee of record, at the last address filed with the Commission, a written notice of the Commission's intention to revoke or restrict the license, and the licensee and any sublicensee shall be allowed thirty (30) days after the mailing of such notice, or within such period as may be granted by the Commission, to remedy any breach of any covenant or agreement as referred to in paragraph (a)(8)(iii) of this section, or to show cause why the license should not be revoked or restricted.

(11) Subject to the rights reserved to the Government in this section, the licensee shall be granted the nonexclusive rights to make, use, and/or sell the invention in accordance with the terms and conditions specified in the license agreement.

(12) The license may be subject to such other terms and conditions as the Commission may deem in the public interest.

§ 81.30 Limited exclusive licenses.

(a) An NRC invention may be made available for the grant of a limited exclusive license provided that:

(1) The invention has been published as available for licensing pursuant to § 81.13 for a period of at least six (6) months.

(2) The Commission has determined that (i) the invention may be brought to the point of practical application in certain fields of use or in certain geographical locations by exclusive licensing, (ii) the desired practical application has not been achieved under any nonexclusive license granted on the invention, and (iii) the desired practical application is not likely to be achieved expeditiously in the public interest under a nonexclusive license or as a result of further Government-funded research or development.

(3) Notice of the selection of a prospective licensee to be granted a limited exclusive license of a specified duration and scope shall have been transmitted to the Attorney General of the United States and shall have been published for at least sixty (60) days in the FEDERAL REGISTER with a statement advising of the rights of license applicants or third parties to apply for nonexclusive licenses or bring information to the attention of the Commission under the next paragraph.

(4) After expiration of the period in paragraph (a)(3) of this section, the Commission has determined (i) that no applicant for a nonexclusive license has brought or will bring the invention to the point of practical application as specified in the prospective exclusive license within a reasonable period under a nonexclusive license, and (ii) that the granting of the license would be in the public interest and not be inconsistent with the Act after consideration of all the facts and any written evidence and argument which third parties may present to the Commission within sixty (60) days of the publication of the notices of the selection of the licensee under paragraph (a)(3) of this section.

(5) The Commission shall record and make available for public inspection, upon request, all decisions and the basis thereof under this section.

§ 81.31 Selection of an exclusive licensee.

An exclusive licensee will be selected by the Commission on bases consistent with the policy set forth in § 81.11 of this subpart in accordance with the procedures herein, based upon the information supplied to the Commission in a license application under § 81.40. Consideration will be given to: (a) The capabilities of the applicant to further the technical and market development of the invention to bring the same to the point of practical application, (b) the applicant's plan to undertake development of the invention, (c) the projected impact on competition, (d) the benefit to the Government and the public, as well as (e) assistance to small business and minority business enterprises and economically depressed, low income and labor surplus areas, and (f) whether the applicant is a U.S. citizen or corporation.

§ 81.32 Terms of exclusive license grant.

(a) NRC inventions may be made available for the grant of limited exclusive licenses to responsible applicants who will bring the invention to the point of practical application and make its benefits reasonably accessible to the public.

(1) The license may be granted for all or less than all fields of use of the invention, and throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or any lesser geographical portion thereof.

(2) The duration of the license will be negotiated and shall include (i) a period of exclusivity specified in the license, which shall be related to the period necessary to provide a reasonable incentive for the licensee to invest the necessary risk capital to bring the invention to the point of practical application and which shall not exceed 5 years or be extended unless the Commission determines on the basis of a written submission supported by a factual showing that a longer period is reasonably necessary to permit the licensee to enter the market and recoup his investment in bringing the invention to the point of practical application; and (ii) a terminal portion, sufficient to make the invention reasonably available for the granting of nonexclusive licenses under § 81.20, during which the licensee may have a nonexclusive license if the licensee continues to make the invention reasonably accessible to the public.

(3) The license shall require the licensee to bring the invention to the
point of practical application withi
period specified in the license agr
ment, or, subject to the approval
the Commission, within a long
period, and then to continue to ma
the benefits of the invention reaso
ably accessible to the public.

(4) The license shall require the
censee to expand a specified minimu
sum of money and/or to take oth
specified action, within indicated pe
ods as specified in the license, in
effort to bring the invention to t
point of practical application. Reaso
able royalties shall be charged by t
Commission, as specified in the licen
agreement, unless the Commission d
termines that it would not be in t
public interest to charge royalties.

(5) The license shall be subject to
irrevocable, royalty-free right of t
Government of the United States
practice and have practiced the inve
tion by or on behalf of the Gover
ment of the United States and
behalf of any foreign Government
intergovernmental organization purs
ant to any existing or future treaty
agreement with the United States.

(6) The license shall reserve to th
Commission the right to require the l
censee to grant sublicenses to respo
sible applicants to practice the inve
tion on terms that are reasonab
under the circumstances, (i) to th
extent that the invention is require
for public use by governmental regul
tions, or (ii) as may be necessary t
fulfill health or safety needs, or (iii)
the invention is useful in the produc
tion or utilization of special nucle
material or atomic energy and the l
censing of such invention is of impor
tance to effectuate the policies an
purposes of the Act, (iv) for othe
public purposes as stipulated in the li
cense agreement. In the event that th
licensee and the Commission canno
agree upon reasonable terms for such
sublicenses, the terms, including a rea
sonable royalty, may be fixed pursuant to the procedure set forth in section 157(c) of the Act.

(7) Subject to the right reserved to
the Government in paragraphs (a)(5)
and (6) of this section, the licensee
shall be granted the exclusive right to
make, use, and/or sell the invention in
accordance with the terms and condi-

tions specified in the license agreement.

(8) The license may extend to wholly owned subsidiaries of the licensee but shall be nonassignable and otherwise nontransferable without approval of the Commission, except assignment may be made, upon notice to the Commission, to successors of that part of the licensee's business to which the invention pertains.

(9) An exclusive licensee may grant sublicenses under his license only with the approval of the Commission. Any sublicense or assignment granted by an exclusive licensee shall be subject to the terms and conditions of the exclusive license, including the rights retained by the Government thereunder, and a copy of each such sublicense or assignment shall be furnished to the Commission.

(10) The license shall require the licensee to submit periodic reports on his efforts to achieve practical application of the invention and the extent to which he continues to make the benefits of the invention reasonably accessible to the public. Unless otherwise specified in the license, such reports will be required annually on the anniversary date of the grant of the license. The report shall contain information within the licensee's knowledge, or which the licensee may acquire under normal business practices, pertaining to the commercial use being made of the invention, and other information which the Commission may determine to be pertinent to the licensing activity of the Commission as is specified in the license agreement.

(11) The Commission may modify or revoke the license (i) for failure of the licensee to bring the invention to the point of practical application within the period specified in the license agreement or to continue to make the benefits of the invention reasonably accessible to the public; (ii) if the licensee fails to expend the minimum sum of money or to take any other action specified in the license agreement within the periods specified in the license agreement in an effort to bring the invention to the point of practical application; (iii) if the licensee defaults in making any payments or periodic reports required by the license; or (iv) if the licensee commits any breach of any covenant or agreement therein contained; or (v) if the licensee willfully makes, or has made, a false statement of a material fact or willfully omitted a material fact in the license application submitted pursuant to § 81.40 or in any report required by the license agreement.

(12) Before modifying or revoking any license granted pursuant to this subpart for any cause, the Commission shall mail to the licensee and any sublicensee of record at the last address filed with the Commission a written notice of the Commission's intention to modify or revoke the license, and the licensee and any sublicensee shall be allowed thirty (30) days after the mailing of such notice, or within such period as may be granted by the Commission, to remedy any breach of any covenant or agreement referred to in paragraph (a)(11)(iv) of this section or to show cause why the license should not be modified or revoked.

(13) An exclusive licensee shall be granted the right to sue at his own expense any party who infringes the rights set forth in his license and covered by the licensed patent. The licensee may join the Government of the United States, upon consent of the Attorney General, as a party complainant in such suit, but without expense to the Government and the licensee shall pay costs and any final judgment or decree that may be rendered against the Government in such suit. The Government shall have an absolute right to intervene in any such suit at its own expense. The licensee shall be obligated to furnish promptly to the Government, upon request, copies of all pleadings and other papers filed in any such suit and of evidence adduced in proceedings relating to the licensed patent, including, but not limited to, negotiations or settlements and agreements settling claims by a licensee based on the licensed patent, and all other books, documents, papers, and records pertaining to such suit. If, as a result of any such litigation, the patent shall be declared invalid, the licensee shall have the right to surrender his license

and be relieved from any further obligation thereunder.

(14) A licensee may surrender his license at any time prior to termination of the license upon notice thereof to the Commission, and upon approval of the Commission, but the licensee shall not be relieved of the obligations thereunder without specific approval of the Commission.

(15) The license may be subject to such other terms and conditions as the Commission may deem in the public interest.

§ 81.35 Notices to public of exclusive licenses.

The Commission will have published in the FEDERAL REGISTER notices of the granting, revocation, or modification in duration and/or scope, of limited exclusive licenses under these regulations. Such notices shall identify the invention and shall include, directly, or by reference to previous notice(s) in the FEDERAL REGISTER pursuant to § 81.13 or § 81.30(a)(3) the following:

(a) Identification of the licensee.

(b) Duration and scope of the exclusive license.

(c) That such a license is being granted or revoked, or the nature of the modification of the license.

(d) The effective date of the grant, modification, or revocation.

§ 81.40 Contents of a license application.

(a) *Nonexclusive license application.* An application for a nonexclusive license under an NRC invention should be accompanied by a fee of ten dollars ($10) for processing the application and must include the following information:

(1) Identification of the invention for which the license is desired, including the patent application serial number or the patent number, title, and date, if known, and any other identification of the invention;

(2) Name and address of the person, company, or organization applying for a license and the citizenship or State of incorporation thereof;

(3) Name and address of a representative of applicant to whom correspondence should be sent and any notices served;

(4) Nature and type of applicant's business;

(5) Identification of the source of applicant's information concerning the availability of a license on the invention;

(6) Purpose for which the license is desired, and a brief description of applicant's plan to achieve that purpose;

(7) A statement of the field and the field(s) of use in which applicant intends to practice the invention; and

(8) A statement of the geographical area(s) in which the applicant will practice the invention.

(b) *Exclusive license application.* An application for a limited exclusive license should include, in addition to the information indicated above for a nonexclusive license application, the following information:

(1) Applicant's status, if any, in any one or more of the following categories:

(i) Small business firm;

(ii) Minority business enterprise;

(iii) Location in a surplus labor area;

(iv) Location in a low income area; and

(v) Location in an economically depressed area.

(2) A statement describing the time, expenditure, and other acts which the applicant considers necessary to bring the invention to a point of practical application, and the applicant's offer to invest that time and sum, and to perform such acts, if the license is granted.

(3) A statement of applicant's capability to undertake the development and/or marketing required to bring the invention to the point of practical application.

(4) A statement that contains applicant's best knowledge of the extent to which the invention is being practiced by private industry and the Government; and

(5) Any other facts which the applicant believes to show it to be in the public interest for the Commission to grant an exclusive license rather than a nonexclusive license and that such exclusive license should be granted to the applicant.

§ 81.50 Additional licenses.

Subject to any outstanding licenses, nothing in this subpart shall preclude the Commission from granting additional nonexclusive and limited exclusive licenses for inventions covered by this subpart when the Commission determines that to do so would provide for an equitable exchange of patent rights. The following exemplify circumstances wherein such licenses may be granted:

(a) In consideration of the settlement of interferences;

(b) In consideration of a release of any claims;

(c) In exchange for or as part of the consideration for a license under adversely held patent(s); or

(d) In consideration for the settlement or resolution of any proceeding under the Act or other statute.

§ 81.51 Appeals.

An applicant for a license, a licensee, or a third party who has participated under § 81.30(a)(3) shall have the right to appeal in accordance with the appeal procedures of this subpart any decision of the Commission concerning the grant, denial, interpretation, modification, or revocation of a license under this subpart, by filing a notice of appeal with the Commission within thirty (30) days from the date of the mailing of a notice by the Commission of the decision or, if no such notice to the person desiring to appeal, then thirty (30) days from publication in the FEDERAL REGISTER of the facts which show such a decision. The notice of appeal shall specify the portion of the decision from which the appeal is taken, and the reasons why the decision is erroneous. A statement of fact and argument in the form of a brief in support of the appeal may be submitted with the notice of appeal or, if the appellant prefers, may be filed with the Commission within fifteen (15) days after the filing of the notice of appeal. If a statement of fact and argument in the form of a brief in support of the appeal is not submitted with the notice, the appellant shall state in the notice whether such a statement of fact and argument in the form of a brief in support of the appeal will be filed.

§ 81.52 Appeals Board.

(a) *NRC Invention Licensing Appeal Board.* Upon notice of an appeal in accordance with § 81.51, the Executive Director for Operations of the Nuclear Regulatory Commission will designate within thirty (30) days an Invention Licensing Appeal Board (hereinafter, Board) to decide such an appeal.

(b) *Composition of the Board.* The Invention Licensing Appeal Board shall consist of three members having equal voting power, one of whom will be designated as Chairman.

(c) *Notice of designation of the Board.* The Executive Director for Operations of the Nuclear Regulatory Commission will advise the appellant of the designation of the Board, its composition, and Chairman.

[40 FR 8793, Mar. 3, 1975]

§ 81.53 Review by the Board.

(a) The Board shall determine the propriety of any decision concerning the grant, denial, interpretation, modification, or revocation of a license according to the policy and criteria of these regulations, including § 81.11, on the record and evidence submitted by an appellant and the Commission to the Board.

(b) A hearing may be requested by the Commission or an appellant within fifteen (15) days after the notice set forth under § 81.52(c). An appellant and the Commission shall be given a minimum of fifteen (15) days' notice of the time and place of a hearing. The Commission and the appellant shall have an opportunity to make oral arguments before the Board.

(c) The Board shall make findings of fact and reach a conclusion with respect to the propriety of the decision of the Commission, which conclusion shall constitute the final action of the Commission.

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PART 95—SECURITY FACILITY APPROVAL AND SAFEGUARDING OF NATIONAL SECURITY INFORMATION AND RESTRICTED DATA

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VIOLATIONS

95.61 Violations.

APPENDIX A TO PART 95—CLASSIFICATION GUIDE FOR SAFEGUARDS INFORMATION

AUTHORITY: Secs. 145, 161, 68 Stat. 942, 948, as amended (42 U.S.C. 2165, 2201); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); E.O. 10865, as amended, 3 CFR 1959-1963 COMP., p. 398 (50 U.S.C. 401, note); E.O. 12356, 47 FR 14874, April 6, 1982.

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 95.13, 95.15(a), 95.25, 95.27, 95.29(b), 95.31, 95.33, 95.35, 95.37, 95.39, 95.41, 95.43, 95.45, 95.47, 95.51, 95.53, and 95.57 are also issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)).

SOURCE: 45 FR 14483, Mar. 5, 1980, unless otherwise noted.

GENERAL PROVISIONS

§ 95.1 Purpose.

The regulations in this part establish procedures for obtaining security facility approval and for safeguarding Secret and Confidential National Security Information and Restricted Data received or developed in conjunction with activities licensed or regulated by the Commission. This part does not apply to Top Secret information since no such information may be forwarded to licensees or others within the scope of an NRC license.

§ 95.3 Scope.

The regulations in this part apply to licensees and others regulated by the Commission who may require access to National Security Information and/or Restricted Data used, processed, stored, reproduced, transmitted or handled in connection with a license or application for a license.

§ 95.5 Definitions.

Access authorization means an administrative determination that an individual (including a consultant) who is employed by or an applicant for employment with the NRC, NRC contractors, agents, and licensees of the NRC, or other person designated by the Executive Director for Operations, is eligible for a security clearance for access to Restricted Data or national security information.

Act means the Atomic Energy Act of 1954 (68 Stat. 919), as amended.

Authorized Classifier means an individual authorized in writing by appropriate authority to classify, declassify or downgrade the classification of information. This term applies to authorized derivative classifiers and authorized original classifiers.

Classified mail address means a mail address established for each facility approved by the NRC, to which all National Security Information or Restricted Data for the facility is to be sent.

Classified matter means documents or material containing classified information.

Combination lock means a three position, manipulation resistant, dial type lock bearing an Underwriters' Laboratories, Inc. certification that it is a Group 1 or Group IR unit.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Infraction means an act or omission involving failure to comply with NRC security requirements or procedures.

Intrusion alarm means a tamper-indicating electrical, electro-mechanical, electro-optical, electronic or similar device which will detect unauthorized intrusion by an individual into a building, protected area, security area, vital area, or material access area, and alert guards or watchmen by means of actuated visible and audible signals.

L access authorization means an access authorization granted by the Commission which is normally based on a national agency check and credit investigation (NAC&C) or national agency check, inquiries and credit investigation (NACIC) conducted by the Office of Personnel Management.

License means a license issued pursuant to 10 CFR parts 50, 70, or 72.

Material means chemical substance without regard to form; fabricated or processed item; or assembly, machinery or equipment.

Matter means documents or material.

National security means the national defense or foreign relations of the United States.

National security information means information that has been determined pursuant to Executive Order 12356 or any predecessor order to require protection against unauthorized disclosure and that is so designated.

Need-to-know means a determination, by persons having responsibility for classified information or matter, that a proposed recipient's access to such classified information or matter is necessary in the performance of his official, contractual or licensee duties of employment under the cognizance of the Commission.

Person means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, government agency other than the Commission or the Department of Energy (DOE), except that the DOE shall be considered a person to the extent that its facilities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 and sections 104, 105 and 202 of the Uranium Mill Tailings Radiation Control Act of 1978, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent or agency of the foregoing.

Protective personnel means guards or watchmen as defined in 10 CFR part 73 or other persons designated responsibility for the protection of classified matter.

Q access authorization means an access authorization granted by the Commission based on a full field investigation conducted by the Office of Personnel Management, the Federal Bureau of Investigation, or other U.S. Government agency which conducts personnel security investigations.

Restricted data means all data concerning design, manufacture or utilization of atomic weapons, the production of special nuclear material, or the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to section 142 of the Act.

Security area means a physically defined space containing classified matter and subject to physical protection and personnel access controls.

Security container includes any of the following repositories: (1) A security filing cabinet—one that bears a Test Certification Label on the side of the locking drawer, inside wall adjacent to the locking drawer, or interior door plate, and is marked, *General Services Administration Approved Security Container* on the exterior of the top drawer or door.

(2) A safe—burglar-resistive cabinet or chest which bears a label of the Underwriters' Laboratories, Inc. certifying the unit to be a TL-15, TL-30, or TRTL-30, and has a body fabricated of not less than 1 inch steel and a door fabricated of not less than 1½ inches steel exclusive of the combination lock and bolt work; or bears a Test Certification Label on the inside of the door and is marked *General Services Administration Approved Security Container* and has a body of steel at least ½" thick, and a combination locked steel door at least 1" thick, exclusive of bolt work and locking devices.

(3) A vault—a windowless enclosure constructed with walls, floor, roof and door(s) that will delay penetration sufficient to enable the arrival of emergency response forces capable of preventing theft, diversion, damage or compromise of classified information or matter, when delay time is assessed in conjunction with detection and communication subsystems of the physical protection system.

(4) A vault-type room—a room which has a combination lock door and is protected by an intrusion alarm system which alarms upon the unauthorized penetration of a person anywhere into the room.

(5) Other repositories which in the judgment of the Division of Security would provide comparable physical protection.

Security facility—any facility which has been approved by NRC for using, processing, storing, reproducing, transmitting or handling classified matter.

Security facility approval means that a determination has been made by the NRC that a facility is eligible to use, process, store, reproduce, transmit or handle classified matter.

Security survey is an examination by an NRC representative of all devices, equipment, and procedures employed at a security facility to safeguard classified matter.

[45 FR 14483, Mar. 5, 1980, as amended at 46 FR 58284, Dec. 1, 1981; 47 FR 3868, Sept. 2, 1982; 48 FR 24320, June 1, 1983; 50 FR 36984, Sept. 11, 1985; 55 FR 11575, Mar. 29, 1990; 55 FR 14379, Apr. 17, 1990]

§ 95.7 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 95.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0047.

(b) The approved information collection requirements contained in this part appear in §§ 95.11, 95.15, 95.21, 95.25, 95.33, 95.36, 95.37, 95.41, 95.45, 95.47, 95.53, and 95.57.

[49 FR 19629, May 9, 1984]

§ 95.9 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part should be addressed to the Director, Division of Security, Nuclear Regulatory Commission, Washington, DC 20555.

§ 95.11 Specific exemptions.

The Commission may, upon application of any interested party, grant an exemption from the requirements of part 95. Exemptions will be granted only if they are authorized by law and will not constitute an undue risk to the common defense and security. The licensee shall retain the documentation related to the request, notification, and processing of an exemption for three years beyond the period covered by the exemption.

[53 FR 19263, May 27, 1988]

§ 95.13 Maintenance of records.

(a) Each licensee or organization granted security facility approval under this part shall maintain records prescribed within the part. These records are subject to review and inspection by NRC representatives during security surveys.

(b) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

[53 FR 19263, May 27, 1988]

PHYSICAL SECURITY

§ 95.15 Approval for processing licensees and others for security facility approval.

(a) A licensee, or other person who has a need to use, process, store, reproduce, transmit or handle National Security Information and/or Restricted Data at any location in connection with Commission related activities shall promptly request an NRC security facility approval.

(b) The request shall include the following information: The name of the facility; the location of the facility; a security plan outlining the facility's proposed security procedures and controls for the protection of National Security Information and/or Restricted Data; a floor plan of the area in which the matter is to be used, processed, stored, reproduced, transmitted or handled.

(c) NRC will promptly inform applicants of the acceptability of the request for further processing and will notify the licensee or other person of their decision in writing.

[45 FR 14483, Mar. 5, 1980, as amended at 48 FR 24321, June 1, 1983; 50 FR 36984, Sept. 11, 1985]

§ 95.17 Processing security facility approval.

Following receipt of an acceptable request for security facility approval, NRC will perform an initial security survey of the licensee or other facility to determine that granting a security facility approval would be consistent with the national security. If NRC makes such a determination, security facility approval will be granted. However, NRC may determine that granting an interim security facility approval prior to an initial security survey would be consistent with the national security. If NRC makes such a determination, interim security facility approval will be granted and a security survey performed as soon thereafter as practical. As a result of the security survey, NRC may grant a security facility approval or may continue or terminate interim security facility approval pending compliance with survey recommendations or until an exemption is granted pursuant to § 95.11.

[47 FR 9196, Mar. 4, 1982]

§ 95.18 Changes to security practices and procedures.

(a) Except as specified in paragraph (b) of this section, each licensee or other person shall obtain prior NRC approval for any proposed change to the name, location, security procedures and controls, or floor plan of the approved facility. A written description of the proposed change must be furnished to the NRC Director, Division of Security, Office of Administration, Washington, DC 20555, with a copy to the Regional Administrator of the cognizant Regional Office listed in appendix A of part 73. The NRC shall promptly respond in writing to all such proposals. Some examples of substantive changes requiring prior NRC approval include:

(1) A change in the approved facility's classified mail address; or

(2) A temporary or permanent change in the location of the approved facility (e.g., moving or relocating NRC's classified interest from one room or building to another).

(b) A licensee or other person may effect a minor, nonsubstantive change to an NRC approved facility security plan for the safeguarding of National Security Information and/or Restricted Data without receiving prior NRC approval, provided prompt notification of such minor change is furnished to the addressee noted in paragraph (a) of this section, and the change does not decrease the effectiveness of the plan. Some examples of minor, nonsubstantive changes to the facility security plan include:

(1) The designation/appointment of a new facility security officer; or

(2) A revision to protective personnel patrol routine, provided the new routine continues to meet the minimum requirements of this part.

[50 FR 36984, Sept. 11, 1985, as amended at 52 FR 31613, Aug. 21, 1987; 54 FR 53316, Dec. 28, 1989]

§ 95.19 Grant, denial or termination of security facility approval.

The Division of Security shall provide notification in writing (or orally with written confirmation) to the licensee or other organization, of the Commission's grant, denial, or termination of security facility approval. This information shall also be furnished to representatives of NRC, NRC licensees, NRC contractors, or other Federal agencies having a need to transmit National Security Information and/or Restricted Data to the licensee or other person.

[50 FR 36985, Sept. 11, 1985]

§ 95.21 Withdrawal of requests for security facility approval.

When a request for security facility approval is to be withdrawn or cancelled, the NRC Division of Security will be notified by the requestor immediately by telephone so that processing for this approval may be terminated. The notification will identify the full name of the individual requesting discontinuance, his position with the facility, and the full identification of the facility. Such telephone advice shall be confirmed promptly in writing.

[45 FR 14483, Mar. 5, 1980, as amended at 50 FR 36985, Sept. 11, 1985]

§ 95.23 Termination of security facility approval.

Security facility approval will be terminated when:

(a) There is no longer a need to use, process, store, reproduce, transmit or handle classified matter at the facility; or

(b) The Commission makes a determination that continued security facility approval is not in the interest of national security.

In such cases the licensee or other person will be notified in writing of the determination and the procedures outlined in § 95.53 of this part will apply.

§ 95.25 Protection of National Security Information and Restricted Data in storage.

(a) *Protection of secret matter.* (1) Secret documents while unattended or not in actual use shall be stored in locked security containers protected by an NRC approved intrusion alarm or by protective personnel.

(2) Protective personnel must be used where National Security Information or Restricted Data cannot be adequately safeguarded during working hours by employees or during nonworking hours by an intrusion alarm system. In either case, protective personnel must be capable of responding within fifteen minutes.

(3) When protective personnel are used, physical checks of security containers must be made as soon as possible after the close of each normal workday and at least once every eight hours thereafter during non-working hours. The licensee shall record the results of these checks and retain each record for three years after it is made.

(b) Confidential matter while unattended or not in use shall be stored:

(1) Under any of the methods used for Secret matter as set forth in paragraph (a) of this section, or

(2) In a locked security container within a locked room or building.

(c) *Classified lock combinations.* (1) Knowledge of lock combinations protecting classified information shall be limited to a minimum number of personnel necessary for operating purposes, with a need-to-know, and possessing the highest access authorization of the matter stored or authorized to be stored in the container. Records identifying personnel having knowledge of such lock combinations shall be maintained until superseded by a new form or list, or until the container is removed from service.

(2) Combinations shall be changed:

(i) Whenever the container is placed in use.

(ii) Whenever a person knowing the combination no longer requires access to a combination. This may be as a result of a change in duties or location in the licensee's or licensee related organization or termination of employment with the licensee or other organization.

(iii) Whenever a combination has been subjected to possible compromise.

(iv) Whenever the container is taken out of service, and

(v) In any event at least once every year.

(d) *Records of combinations.* Records of combinations shall be classified, marked and safeguarded in a manner appropriate for the highest classification of the matter authorized to be stored in the security container.

(e) *Selections of combinations.* Each combination must be randomly selected and require the use of at least three different numbers. In selecting combinations, multiples, simple arithmetical ascending or descending series, telephone numbers, social security numbers, car license numbers, and calendar dates such as birthdates and anniversaries, shall be avoided.

(f) *Cautions regarding combinations.* (1) When closing a combination lock, the dial must be turned at least four times in the same direction.

(2) Combinations shall be changed only by persons authorized access to Secret or Confidential National Security Information and/or Restricted Data depending upon the matter authorized to be stored in the security container.

(g) *Posted information.* (1) The names, addresses, and telephone numbers of the custodian and all alternates having knowledge of the combination shall be posted on the outside or inside of each security container.

(2) A record of the date of last change of the combination of each security container shall be maintained as long as the container is in service.

(3) A monitor sheet shall be posted on each security container approved for the storage of classified matter. The monitor sheet shall contain space for the date and initials of the persons locking and checking the container to assure it is secured. It shall be initialed at the end of each work day by the person locking the container and, where feasible, by another person who can physically double check the lock, locked drawer, or door and all exposed drawers to assure proper securing of the container. Such monitor sheets shall be maintained for one month.

(h) Unattended security container found opened: In the event that an unattended security container housing classified matter is found unlocked, the custodian or an alternate shall be notified immediately. The container must be secured by protective personnel and the contents inventoried as soon as possible but not later than the next workday. A report reflecting all actions taken must be submitted to the responsible Regional Office (see appendix A, 10 CFR part 73 for addresses) with an information copy to the NRC Division of Security. The licensee shall retain records pertaining to these matters for three years after completion of final corrective action.

(i) Keys to locks used to secure gates or doors in security area perimeters shall be issued only to persons authorized access to the matter or to the area. Files relating to accountability for keys issued shall be maintained for 3 years after the key has been turned in.

[45 FR 14483, Mar. 5, 1980, as amended at 47 FR 9196, Mar. 4, 1982; 50 FR 36985, Sept. 11, 1985; 53 FR 19263, May 27, 1988]

§ 95.27 Protection while in use.

While in use, matter containing National Security Information or Restricted Data must be under the direct control of an authorized individual to preclude physical, audio and visual access by persons who do not have the prescribed access authorization or other written Division of Security disclosure authorization (see § 95.36 for additional information concerning disclosure authorizations).

[50 FR 36985, Sept. 11, 1985]

§ 95.29 Establishment of security areas.

(a) If, because of its nature, sensitivity or importance, matter containing National Security Information or Restricted Data cannot otherwise be effectively controlled in accordance with the provisions of §§ 95.25 and 95.27, a security area shall be established to protect such matter.

(b) The following measures shall apply to security areas:

(1) Security areas shall be separated from adjacent areas by a physical barrier designed to prevent unauthorized access (physical, audio and visual) into such areas.

(2) Controls shall be established to prevent unauthorized access to and removal of classified matter.

(3) Access to classified matter shall be limited to persons who possess appropriate access authorization or other written Division of Security disclosure authorization and who require access in the performance of their official duties or contractual obligations.

(4) Persons without appropriate access authorization for the area visited shall be escorted by an appropriate NRC access authorized person at all times while within security areas.

(5) Each individual authorized to enter a security area shall be issued a distinctive form of identification (e.g., badge) when the number of employees assigned to the area exceeds thirty per shift.

(6) During nonworking hours, admittance shall be controlled by protective personnel. Protective personnel shall conduct patrols during nonworking hours at least every 8 hours and more frequently if necessary to maintain a commensurate level of protection. Entrances shall be continuously monitored by protective personnel or by an approved alarm system.

[45 FR 14483, Mar. 5, 1980, as amended at 46 FR 13204, Feb. 20, 1981]

§ 95.31 Protective personnel.

Whenever protective personnel are used to protect National Security Information and/or Restricted Data they shall:

(a) Possess an "L" access authorization (or Department of Defense or DOE equivalent) if the licensee or other person possesses information classified Confidential National Security Information, Confidential Restricted Data or Secret National Security Information.

(b) Possess a "Q" access authorization (or Department of Defense or DOE equivalent) if the licensee or other person possesses Secret Restricted Data and the protective personnel require access as part of their regular duties.

§ 95.33 Security education.

A security education program shall be established and maintained by the licensee or license related organization which employs individuals possessing NRC personnel security access authorization under part 25. The program shall include consideration and coverage of personnel access authorization requirements, the physical security features of the facilities, the classified nature of the work and the classification and sensitivity of the information. In addition, the program shall include an explanation of the contents of the "Classified Information Nondisclosure Agreement" (SF 312) and the procedures to be followed in ascertaining whether other persons to whom they contemplate disclosing classified information have been approved for access to such information. The procedures include verification of the individual's level of access authorization and determining whether the individual to whom the information is to be disclosed has an established need-to-know. Each security education program shall provide for the security orientation and continuing security education of employees, and for the appropriate security instruction of terminating employees. Records reflecting an individual's initial and refresher security orientations and security termination shall be maintained for three years after termination of the individual's access authorization.

[51 FR 47205, Dec. 31, 1986, as amended at 53 FR 19263, May 27, 1988; 54 FR 40861, Oct. 4, 1989]

CONTROL OF INFORMATION

§ 95.35 Access to National Security Information and Restricted Data.

(a) Except as the Commission may authorize, no person subject to the regulations in this part may receive or may permit any individual to have access to Secret or Confidential National Security Information or Restricted Data unless the individual has:

(1)(i) A "Q" access authorization which permits an individual access to (A) Secret and Confidential Restricted Data and (B) Secret and Confidential National Security Information which includes intelligence information, CRYPTO (i.e., cryptographic information) or other classified communications security (COMSEC) information, or

(ii) An "L" access authorization which permits an individual access to Confidential Restricted Data and Secret and Confidential National Security Information other than that noted in paragraph (a)(1)(i) of this section except that, access to certain Confidential COMSEC information is permitted as authorized by a National Communications Security Committee waiver dated February 14, 1984.

(2) An established "need-to-know" for the information. (See Definitions, § 95.5).

(3) NRC approved storage facilities if classified documents or material are to be transmitted to the individual.

(b) National Security Information or Restricted Data shall not be released by a licensee or other person to any personnel other than properly access authorized Commission licensee employees, or other individuals authorized access by the Commission.

(c) Access to National Security Information at NRC-licensed facilities by authorized representatives of IAEA is permitted in accordance with § 95.36 of this part.

[45 FR 14483, Mar. 5, 1980, as amended at 46 FR 13204, Feb. 20, 1981; 50 FR 36985, Sept. 11, 1985]

§ 95.36 Access by representatives of the International Atomic Energy Agency.

(a) Based upon written disclosure authorization from the Division of Security that an individual is an authorized representative of the International Atomic Energy Agency (IAEA), and that the individual is authorized to make visits or inspections in accordance with the US/IAEA Safeguards Agreement, a licensee will permit the individual (upon presentation of the credentials specified in § 75.7 of this chapter and any other credentials identified in the disclosure authorization) to have access to National Security Information (NSI) which is relevant to the conduct of a visit or inspection. A disclosure authorization under this section does not authorize a licensee to provide access to Restricted Data.

(b) For purposes of this section, NSI is relevant to the conduct of a visit or inspection if:

(1) In the case of a visit, this information is needed to verify information according to § 75.13, or

(2) In the case of an inspection, the information is information to which an inspector is entitled to have access under § 75.42.

(c) In accordance with the specific disclosure authorization provided by the Division of Security, licensees are authorized to release (i.e., transfer possession of) copies of documents which contain National Security Information directly to IAEA inspectors and other representatives officially designated by IAEA to request and receive classified National Security Information documents. These documents shall be marked specifically for release to IAEA in accordance with instructions contained in NRC's disclosure authorization letter. Licensees may also forward these documents through NRC to IAEA representatives at IAEA headquarters in accordance with the NRC disclosure authorization. Licensees are not authorized to reproduce documents containing National Security Information except as provided in § 95.43 of this part.

(d) Records regarding these visits and inspections shall be maintained for five years beyond the date of the visit or inspection. These records shall specifically identify each document which has been released to an authorized representative and shall indicate the date of such release. These records shall also identify (in such detail as the Division of Security, by letter, may require) the categories of documents to which the authorized representative has had access and the date of such access. A licensee shall also retain Division of Security disclosure authorizations for five years beyond the date of any visit or inspection when access to classified information was permitted.

(e) Licensees shall take such measures as may be necessary to preclude access to classified information to which IAEA representatives are not authorized access.

[46 FR 13204, Feb. 20, 1981, as amended at 48 FR 24321, June 1, 1983]

§ 95.37 Classification and preparation of documents.

(a) *Classification.* National Security Information and Restricted Data generated or possessed by a licensee or other person must be appropriately marked. Such marking of information shall be in compliance with NRC classification guidance found in Appendix A of this part. If a person or facility generates or possesses information which is believed to be classified based on guidance provided by NRC or by derivation from classified documents, but which no authorized classifier has determined to be classified, it must be protected and marked with the appropriate classification markings pending review and signature of an NRC authorized classifier. This final determination should be made within 30 working days. The licensee or other person must protect the document as National Security Information or Restricted Data of the highest classification at issue while awaiting a final determination.

(b) *Classification consistent with content.* Each document containing National Security Information and/or Restricted Data shall be classified Secret or Confidential according to its content.

(c) *Markings required on face of classified documents.* Each classified document must contain on its face:

(1) For National Security Information documents:

(i) Identity of classifier. The identity of the classifier must be shown by completion of the "CLASSIFIED BY" line. The completion of the "CLASSIFIED BY" line must show the guide or guidance responsible for the classification and the signature of the classifier applying the guidance to the document.

(ii) Date of classification and office of origin. The date on a document at the time of its origination may be considered the date of classification if the document is marked as classified on the same day it is originated. If the document is marked on a day subsequent to its origination, the actual date of marking must be shown on the "Classified By" line.

(iii) Classification designation (e.g., Secret, Confidential) and National Security Information.

(iv) Date or event for declassification. Completion of the "Declassify On" line will satisfy this requirement. If the information is not to be declassified automatically on a specific date or upon occurrence of an event, the "Declassify On" line must read as "Declassify On: Originating Agency's Determination Required."

(2) For Restricted Data documents:

(i) Identity of the classifier. The identity of the classifier must be shown by completion of the "Derivative Classifier" line. The "Derivative Classifier" line must show the name of the person classifying the document and the basis for the classification. Dates for downgrading or declassification do not apply.

(ii) Classification designation (e.g., Secret, Confidential) and Restricted Data.

(d) *Classification markings.* The highest classification marking assigned to a document shall be placed in a conspicuous fashion in letters at the top and bottom of the outside of the front covers and title pages, if any, and first and last pages on which text appears, on both bound and unbound documents, and on the outside of back covers of bound documents. The balance of the pages shall be marked at the top and bottom either with:

(1) The classification marking assigned to the document, or

(2) The classification marking required by their content, or

(3) The marking UNCLASSIFIED if they have no classified content.

(e) *Additional markings.* (1) If the document contains any form of Restricted Data it shall bear the appropriate marking on the first page of text, on the front cover and title page, if any. For example:

RESTRICTED DATA

This document contains Restricted Data as defined in the Atomic Energy Act of 1954. Unauthorized disclosure subject to Administrative and Criminal sanctions.

(2) If the document does not contain a form of Restricted Data but does contain National Security Information, it shall bear the following marking, on the first page of text, on the front cover and title page, if any:

NATIONAL SECURITY INFORMATION

Unauthorized disclosure subject to Administrative and Criminal Sanctions

(3) Limitation on reproduction or dissemination. If the originator or classifier determines that reproduction or further dissemination of a document should be restricted, the following additional wording may be placed on the face of the document:

Reproduction or Further Dissemination Requires Approval of

————————————————————

If any portion of this additional marking does not apply, it should be crossed out.

(f) *Portion markings.* In addition to the information required on the face of the document, each classified document is required, by marking or other means, to indicate clearly which portions are classified (e.g., paragraphs or pages) and which portions are not classified. The symbols (S) for Secret, (C) for Confidential, (U) for Unclassified, (RD) for Restricted Data, or (NSI) for National Security Information may be used immediately preceding or following the text to which it applies except that the designation shall follow titles or subjects. (Portion marking of paragraphs is not required for documents containing Restricted Data.) If such portion marking is not practicable, the document must contain a description sufficient to identify the classified information and the unclassified information.

Example

Pages 1-3 Secret National Security Information

Pages 4-19 Unclassified

Pages 20-26 Secret National Security Information

Pages 26-32 Confidential National Security Information

(g) *Documentation.* (1) All Secret documents shall bear on the first page a properly completed documentation stamp such as the following:

Document No. ————————————
This document consists of —— pages
Copy No. —— of —— copies Series ——.

(2) The series designation shall be a capital letter beginning with the letter "A" designating the original set of copies prepared. Each subsequent set of copies of the same document shall be identified by the succeeding letter of the alphabet. The document number identifies the originating office, year of origin, and numerical sequence of the document in the originating office.

(h) *Transmittal document.* If a document transmitting National Security Information and/or Restricted Data contains no classified information or the classification level of the transmittal document is not as high as the highest classification level of its enclosures, then it must be marked at the top and bottom with a classification at least as high as its highest classified enclosure. The classification may be higher if the enclosures, when combined, warrant a higher classification than any individual enclosure. When the contents of the transmittal document warrant a lower classification than the highest classified enclosure(s) or combination of enclosures or requires no classification, a stamp or marking such as the following must also be used on the letter:

UPON REMOVAL OF ATTACHMENTS THIS DOCUMENT IS:

(Classification level of transmittal document standing alone or the word "UNCLASSIFIED" if the transmittal document contains no classified information.)

(i) *Document which custodian believes is improperly classified or lacking appropriate classification markings.* If a person receives a document which, in his or her opinion, is not properly classified, or does not have appropriate classification markings, he or she shall immediately notify the sender and suggest to the originator the classification which he believes to be appropriate. Whenever requested, this challenge of classification marking must be handled in a manner which will ensure the anonymity of the challenger. Pending final determination of proper classification, the document must be safeguarded in accordance with the procedures required for the highest classification in question. Where unauthorized disclosure may have occurred, a report in accordance with § 95.57 of this part is required. These reports must be retained for three years after final corrective action has been taken.

(j) *Files, folders or group of documents.* Files, folders, binders, or groups of physically connected documents shall be marked at least as high as the highest classified document which they contain. A document removed from the files, folders, binders or groups shall be handled in accordance with the document's respective classification.

(k) *Drafts and working papers.* Drafts of documents and working papers which contain or which the originator believes contain classified information must be marked on the top and bottom of each page with the highest level of classification contained, or believed to be contained, with the National Security Information or Restricted Data marking. It is not required that other markings specified in § 95.37(c) can be applied or that an NRC Form 790 be prepared as indicated in § 95.57(c) for drafts and working papers, provided they are not disseminated outside the facility. Prior to any dissemination outside of the facility, drafts and working papers must be reviewed by an authorized derivative classifier, final and complete classification markings applied, and an NRC Form 790 prepared and submitted to the NRC Division of Security, Washington, D.C. 20555. If classified Secret, the document must be recorded in the accountability record in accordance with § 95.41.

[45 FR 14483, Mar. 5, 1980, as amended at 48 FR 24321, June 1, 1983; 53 FR 19263, May 27, 1988]

§ 95.39 External transmission of documents and material.

(a) *Restrictions.* Documents and material containing National Security Information and/or Restricted Data received or originated in connection with an NRC license shall be transmitted only to Commission approved security facilities.

(b) *Preparation of documents.* Documents containing National Security Information and/or Restricted Data shall be prepared in accordance with the following, when transmitted outside an individual installation.

(1) They shall be enclosed in two sealed opaque envelopes or wrappers.

(2) The inner envelope or wrapper shall contain the addressee's classified mail address and the name of the intended recipient. The appropriate classification shall be placed on both sides of the envelope (top and bottom) and the additional markings, as appropriate, referred to in § 95.37(e) of this part shall be placed on the side bearing the address.

(3) The outer envelope or wrapper shall contain the addressee's classified mail address. No classification, additional marking or other notation shall be affixed which indicates that the document enclosed therein contains National Security Information or Restricted Data.

(4) A receipt which contains an unclassified description of the document, the document number, if any, date of the document, copy number and

series, classification, the date of transfer, the recipient and the person transferring the document shall be enclosed within the inner envelope containing the document and shall be signed by the recipient and returned to the sender whenever the custody of a Secret document is transferred. Such receipting for Confidential National Security Information or Confidential Restricted Data is at the option of the sender.

(c) *Methods of transportation.* (1) Secret matter shall be transported only by one of the following methods:

(i) By a messenger-courier system specifically created for that purpose,

(ii) U.S. registered mail,

(iii) By protective services provided by United States air or surface commercial carriers under such conditions as may be prescribed by the Commission,

(iv) When emergency situations preclude the use of any of the above, by specifically designated individuals possessing appropriate NRC or other Federal access authorizations, and written authority. Items being carried should be listed in an appropriate location to permit their identification if lost.

(2) Confidential matter shall be transported by one of the methods set forth in paragraph (c)(1) of this section, by U.S. first class, express or certified mail. First class, express, or certified mail may be used in transmission of Confidential documents to Puerto Rico or any United States territory or possession.

(d) *Telecommunication of Classified Information.* There must be no telecommunication of National Security Information or Restricted Data unless the telecommunication system has been approved by the NRC Division of Security. Licensees or other persons who may require a secure telecommunication system shall submit a telecommunication plan as part of their request for NRC security facility approval, as outlined in § 95.15, or as an amendment to their existing security plan for the protection of National Security Information or Restricted Data.

[45 FR 14483, Mar. 5, 1980, as amended at 45 FR 37410, June 3, 1980; 48 FR 24321, June 1, 1983]

§ 95.41 Accountability for Secret matter.

Each licensee or other person possessing Secret National Security Information and/or Restricted Data shall establish an accountability procedure and shall maintain records to show the disposition of such matter. Records reflecting accountability and disposition of classified matter shall be maintained for three years after its disposition.

[45 FR 14483, Mar. 5, 1980, as amended at 48 FR 24321, June 1, 1983; 50 FR 36985, Sept. 11, 1985; 53 FR 19263, May 27, 1988]

§ 95.43 Authority to reproduce.

Secret National Security Information and/or Restricted Data must not be reproduced without the written permission of the originator, the originator's successor, or higher authority. Confidential National Security Information and/or Confidential Restricted Data may be reproduced, unless restricted by the originating agency, to the extent required by operational needs.

[48 FR 24321, June 1, 1983]

§ 95.45 Changes in classification.

(a) Documents containing National Security Information and/or Restricted Data must be downgraded or declassified as authorized by NRC classification guides or as determined by NRC. Requests for downgrading or declassifying any National Security Information and/or Restricted Data should be forwarded to the NRC Division of Security, Office of Administration, Washington, DC 20555. Requests for downgrading or declassifying of Restricted Data will be coordinated as appropriate by the NRC Division of Security with the Department of Energy.

(b) If a change of classification or declassification is approved the previous classification marking shall be cancelled and the following statement, properly completed, shall be placed on the first page of the document:

Classification canceled (or changed to)

(Insert appropriate classification)
by authority of

(Person authorizing change in classification)
by

(Signature of person making change and date thereof)

Any persons making a change in classification or receiving notice of such a change shall forward notice of the change in classification to holders of all copies as shown on their records.

[45 FR 14483, Mar. 5, 1980, as amended at 48 FR 24322, June 1, 1983; 52 FR 31613, Aug. 21, 1987; 54 FR 53316, Dec. 28, 1989]

§ 95.47 Destruction of matter containing national security information and/or restricted data.

Documents containing National Security Information and/or Restricted Data may be destroyed by burning, pulping, or another method that ensures complete destruction of the information which they contain. The method of destruction must preclude recognition or reconstruction of the classified information. Any doubts on methods should be referred to the NRC Division of Security. If the document contains Secret National Security Information and/or Restricted Data a record of the subject or title, document number, if any, originator, its date or origination, its series designation and copy number, and the date of destruction must be signed by the person destroying the document and must be maintained in the office of the custodian at the time of destruction. These destruction records must be retained for three years after destruction.

[53 FR 19263, May 27, 1988]

§ 95.49 Security of automatic data processing (ADP) systems.

Classified data or information must not be processed or produced on an ADP system unless the system and procedures to protect the classified data or information have been approved by the NRC Division of Security. Approval of the ADP system and procedures is based on a satisfactory ADP security proposal submitted as part of the licensee's or other person's request for NRC security facility approval outlined in § 95.15 or submitted as an amendment to its existing security plan for the protection of National Security Information or Restricted Data.

[48 FR 24322, June 1, 1983]

§ 95.51 Retrieval of classified matter following suspension or revocation of access authorization.

In any case where the access authorization of an individual is suspended or revoked in accordance with the procedures set forth in part 25 of this chapter the licensee or licensed related organization shall, upon due notice from the Commission of such suspension or revocation, retrieve all National Security Information and Restricted Data possessed by the individual and take such action as necessary to preclude that individual having further access to such information.

§ 95.53 Termination of security facility approval.

(a) If the need to use, process, store, reproduce, transmit or handle classified matter, no longer exists, the security facility approval will be terminated. The facility may deliver all documents and materials containing National Security Information and Restricted Data to the Commission or to a person authorized to receive them; or the facility may destroy all such documents and materials. In either case the facility must submit a certification of nonpossession of National Security Information and Restricted Data to the NRC Division of Security.

(b) In any instance where security facility approval has been terminated based on a determination of the Commission that further possession of classified matter by the facility would not be in the interest of the national security, the facility shall, upon notice from the Commission, immediately deliver all classified documents and materials to the Commission along with a certificate of nonpossession of National Security Information and Restricted Data.

[45 FR 14483, Mar. 5, 1980, as amended at 50 FR 36985, Sept. 11, 1985]

§ 95.55 Continued applicability of the regulations in this part.

The suspension, revocation or other termination of access authorization or the termination of security facility approval shall not relieve any person from compliance with the regulations in this part.

[50 FR 36985, Sept. 11, 1985]

§ 95.57 Reports.

Each licensee or other person having a security facility approval shall immediately report to the Regional Administrator of the approprate NRC Regional Office listed in appendix A, 10 CFR part 73:

(a) Any alleged or suspected violation of the Atomic Energy Act, Espionage Act, or other Federal statutes related to National Security Information and/or Restricted Data.

(b) Any infractions, losses, compromises or possible compromise of National Security Information and/or Restricted Data or classified documents not falling within paragraph (a) of this section.

(c) In addition, a licensee's or license related organization's authorized classifier shall complete a NRC Form 790 (Classification Record) whenever a document containing National Security Information and/or Restricted Data is generated, its classification is changed or it is declassified. Notification of declassification is not required for any document or material which has an automatic declassification date. Completed NRC Forms 790 should be submitted to the NRC Division of Security, Washington, DC 20555, on a monthly basis.

[45 FR 14483, Mar. 5, 1980, as amended at 48 FR 24322, June 1, 1983]

§ 95.59 Inspections.

The Commission shall make inspections and surveys of the premises, activities, records and procedures of any person subject to the regulations in this part as the Commission deems necessary to effect the purposes of the Act, E.O. 12356 and/or NRC rules.

[50 FR 36985, Sept. 11, 1985]

VIOLATIONS

§ 95.61 Violations.

(a) An injunction or other court order may be obtained to prohibit a violation of any provision of:

(1) The Atomic Energy Act of 1954, as amended;

(2) Title II of the Energy Reorganization Act of 1974, as amended; or

(3) Any regulation or order issued under these Acts.

(b) National Security Information is protected pursuant to the requirements and sanctions of E.O. 12356.

(c) Whoever willfully violates, attempts to violate, or conspires to violate, any provision of the Atomic Energy Act of 1954, as amended, for which no criminal penalty is specifically provided or any regulation or order prescribed or issued under subsection 161i of the Act may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law. Regulations issued under the Act include regulations issued under subsection 161i and cited within the authority citation at the beginning of this part for the purposes of section 223.

[48 FR 24322, June 1, 1983]

APPENDIX A TO PART 95—CLASSIFICATION GUIDE FOR SAFEGUARDS INFORMATION

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INTRODUCTION

A. *Purpose.* To provide security classification guidance for the safeguarding of information about certain nuclear material or facilities.

B. *Scope.* This guide provides for the classification of information concerning: (1) Reactor and research facilities which have nonself-protecting formula quantities of strategic special nuclear material (SSNM); (2) shipment activities involving nonself-protecting formula quantities of SSNM; and (3) fuel cycle facilities authorized to possess or use nonself-protecting formula quantities of SSNM.

For convenience, this guide divides safeguards information into the following five categories; (1) Material control and accountability; (2) physical protection at fixed sites; (3) in-transit protection of SSNM; (4) safeguards analyses and plans; and (5) safeguards research, development, test, and evaluation.

C. *Basic policy.* The principle which underlies the policy for classification of safeguards information is to provide the maximum possible information to the public, while at the same time protecting against unauthorized disclosure of information which could cause damage to the national security. Such information includes:

(1). Information from SSNM accounting and control systems that could: (a) Facilitate assistance to, frustrate or delay the detection of, or the response, to, the attempted theft or diversion of formula quantities of nonself-protecting SSNM; (b) enhance the credibility or frequency of nuclear threats;

(2) Information that could facilitate carrying out a successful sabotage mission against any facility or activity involving formula quantities of nonself-protecting SSNM;

(3) Information that could facilitate carrying out a successful theft or diversion or formula quantities of nonself-protecting SSNM.

Safeguards information placed officially in the public domain or obtainable by visual access from uncontrolled areas is unclassified.

Retention of safeguards information is subject to authorized records disposition schedules.

This guide is approved for use by Nuclear Regulatory Commission (NRC), NRC contractors, licensees, and other personnel in classifying safeguards information.

D. *Use of this guide:*

1. Information designated as either "Confidential or Secret" in this guide will be classified accordingly by users of the guide. This guide constitutes a record of an original classification decision by the approving authority and directs the derivative classification of information which the guide indicates is classified. Any questions concerning the applicability of this guide should be directed to the Director, Division of Security, Nuclear Regulatory Commission, Washington, D.C. 20555.

2. Certain topics indicate that, information to which they apply may be either Confidential or Secret. Application of these topics requires informed judgment based on knowledge of the overall context of the information. Any questions concerning the applicability of this guide should be directed to the Director, Division of Security, Nuclear Regulatory Commission, Washington, D.C. 20555.

3. In some cases, more detailed supplementary guides may be required. Proposals for such guides should be forwarded to the Director, Division of Security, Nuclear Regulatory Commission, Washington, D.C. 20555.

4. Compilations of unclassified information are generally considered to be unclassified unless some additional factor is added in the process of compilation. For example: (a) The fact that the information is complete for its intended purposes may be classified; or (b) the fact that compiled information represents an official evaluation may be classified.

5. Care should be taken that the declassification of a document does not violate provisions of the guide when evaluated in connection with information already unclassified.

6. If classified information can be discerned from the use, presence, or capabilities of any equipment, the equipment will

be classified at the level of and as long as classified information can be discerned from the equipment.

E. *Definitions used in the guide:*

1. *Formula Quantity of Strategic Special Nuclear Material (SSNM)*—(sometimes referred to as: Formula grams, trigger quantity, strategic quantity, threshold quantity and significant quantity), a formula quantity of strategic special nuclear material is 5,000 grams or more computed by the formula, grams=(grams contained U-235)+2.5 (grams U-233+grams Pu).

2. *Inventory Difference (ID)—(formerly Material Unaccounted For (MUF))*—the algebraic difference between a physical inventory and its concomitant book inventory after determining that all known removals and additions have been reflected in the book inventory. It is calculated by subtracting ending inventory plus removals from beginning inventory plus additions to inventory.

3. *Material access area*—any location which contains special nuclear material within a vault or a building, the roof, walls, and floor of which each constitutes a physical barrier.

4. *Material control and accounting plan*—a site specific document (or group of documents) that gives a comprehensive description of the measures employed in the material control and accounting program.

5. *National Security Information (NSI)*—information or material collectively termed information, that is owned by, produced for or by, under the control of, or regulated by the United States Government, and that has been determined pursuant to Executive Order 12356 or prior Executive Orders to require protection against unauthorized disclosure, and that is so designated.

6. *Nuclear facility*—any facility for originating, producing, using, shipping, receiving or storing formula quantities of nonself-protecting SSNM.

7. *Physical security plan*—a site specific document (or group of documents) that provides a comprehensive description of the measures employed for the physical protection of nuclear facilities and materials against sabotage, theft, or diversion of formula quantities of nonself-protecting SSNM.

8. *Reporting entity*—a licensee or contractor which has been assigned a unique reporting identification symbol (RIS) by NRC or the Department of Energy (DOE) and is required to submit periodic material status reports (NRC/DOE Form 742) identified by the RIS.

9. *Restricted Data (RD)*—defined in the Atomic Energy Act of 1954, as amended, as "all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy; but shall not include data declassified or removed from the Restricted Data category pursuant to Section 142."

10. *Secom*—a nationwide high frequency radio system which provides a means of communicating with and monitoring the progress of SNM shipments moving in the DOE transportation safeguards system.

11. *Self-Protecting Strategic Special Nuclear Material*—SSNM which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

12. *Special Nuclear Material (SNM)*—(1) plutonium, uranium-233, uranium enriched in the isotope-233 or in the isotope-235, and any other material which the Commission, pursuant to the provisions of section 51 of the Atomic Energy Act, as amended, determines to be special nuclear material, but does not include source material; or (2) any material artifically enriched by any of the foregoing but does not include source material.

13. *Strategic Special Nuclear Material* (SSNM)—uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium.

F. *Declassification—E.O. 12356.* Restricted Data is exempt from automatic declassification and does not require declassification markings. National Security Information identified in this guide will be marked for declassification as specified by the applicable topic of this guide. This Guide has been approved by an original Top Secret classification authority.

G. *Abbreviations.* The following abbreviations are used in this Guide:

S—Secret.
C—Confidential.
U—Unclassified.
RD—Restricted Data.
NSI—National Security Information.
OADR—Originating Agency's Determination Required.
SSNM—Strategic Special Nuclear Material.

CLASSIFICATION GUIDANCE

100 *Material Control and Accountability*	
110 SSNM quantities.	
111 Total quantities of SSNM at any given time by total plant	U.
112 Total quantities at any given time of SSNM by designated vault and vault-type storage areas.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

NOTE: Inventories of SSNM for classified DOE programs (e.g., production, naval reactors) will be classified in accordance with DOE guidance applicable to those programs.

120 SSNM Measurement Data	
121 Measurement accuracy required by unclassified regulations (e.g., 10 CFR part 70)..	U.
122 Measurement uncertainties associated with bulk and analytical measurements that are typical for the nuclear industry provided information classified by other topics in this guide is not revealed.	U.
123 The Limit of Error on Inventory Difference (LEID) for individual material balance period or on a cumulative period basis.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
130 Material Control and Accounting Plans	
131 Plans submitted in accordance with 10 CFR part 70 which contains details of the licensee plan for the material control and accounting programs.	U.

These include frequency and schedule of SSNM inventories, and measurement control, including equipment, methodology, quality assurance, destructive and nondestructive analyses, audit and organization.

140 Quantitative SSNM Balance Data.	

The classification guidance in these topics applies to SSNM balance information not classified by other guides, e.g., production of naval reactors; classified topics in such guides take precedence where applicable.

141 Receipts	U.
142 Shipments But see Topic 312.	U.
143 Other removals: measured discards, decay losses, and losses due to fission and transmutation and ID.	
143.1 Total "other removals"	U.
143.2 Itemized "other removals" for a reporting period	U-CNSI—See declassification note for Topic 144.

U when ID is unclassified. See Topic 144

144 Inventory Difference in any amount	CNSI.[1]
150 Other Items Pertaining to Material Control and Accounting	

CLASSIFICATION GUIDANCE—Continued

151 Any computer output displays or printouts which provide itemized "other removals" or inventory difference data.	CNSI—See 143.2 or Topic 144 for applicable declassification marking.
200 *Physical Protection at Fixed Sites*	
201 The physical security plan for a nuclear facility or site. Plans may be SNSI in accordance with other applicable classification guidance.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).
Secret if significant vulnerability is revealed, e.g., degree of seriousness, or explicit means of penetrating existing security defenses are disclosed. See, for example, Section 400 of this guide.	
210 Site and Facility Description.	
211 Only the general layout that can be seen from uncontrolled areas and which does not identify a vulnerability. This general layout may include: buildings parking areas, access roads, fences, outside storage areas, natural terrain, landscaped areas, tunnels, storm and waste sewers, water intake and discharge conduits, culverts, creeks, canals, and any other physical characteristics such as features of buildings, barriers, fences, guard stations, etc.	U.
212 Site specific "as built" drawings, diagrams, sketches, maps, etc., showing identity together with location and/or description of facility features of special interest because of their relationship to the physical security system that if revealed could facilitate theft or diversion of SSNM, or sabotage of a facility.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
But see Topics 211, 213 and 221.	
213 Scope, conceptual design, and construction drawings showing construction characteristics of buildings and associated fencing, electrical and other utility system layouts.	U.
But see Topic 212.	
214 Government sponsored or required evaluations of site-specific construction features or physical security barriers revealing vulnerabilities or limitations which could facilitate penetrating or by-passing physical security barriers.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).
Secret if significant vulnerability, e.g., degree of seriousness, or explicit means of defeating these systems is revealed.	
220 Intrusion and Detection Alarm Systems.	
Includes Manually Activated Duress Alarms.	
221 Scope, conceptual design, and construction plann.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

CLASSIFICATION GUIDANCE—Continued

See Topic 222.	
222 As installed details of alarms system layout location, and electrical design that if disclosed could facilitate gaining unauthorized access to SSNM, nuclear facilities, or classified information.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
223 Vendor hardware performance specifications. Specifications for vendor custom design equipment may be classified.	U.
224 Information, including the effect of specific modifications, revealing in-place operating capability that if disclosed facilitates bypassing such systems.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
225 Security-related vulnerability or weakness	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).
Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of defeating these systems.	
225.1 Vulnerability information directly available from vendor specifications.	U.
226 Sensitivity levels or limits to which installed systems have been set.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
230 Plant Radio and Telephone Communication Systems	
231 Government sponsored or required evaluations of site-specific existing plant radio and telephone communications systems revealing vulnerabilities or limitations in operating capability or procedures.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).
Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of defeating these systems.	
240 Tamper Indicating Seals.	
241 Information revealing ways of successfully circumventing seals which are used to protect SSNM.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).
Secret if explicit means of successfully bypassing seals are disclosed.	
242 Methodology of manufacture	U.
243 Methodology of application	U.
250 Keys, Locks, and Combinations	
251 Generic types and models of keys and locks used	U.
252 Mechanical key design, e.g., key cut depths coding systems which are used to protect areas of a security interest.	C-SNSI.

CLASSIFICATION GUIDANCE—Continued

Classify consistent with the level and duration of classification of information being protected, may be RD.	
253 Combinations and codes	C–SNSI.
Classify consistent with the level and duration of classification of information being protected, may be RD.	
254 Site-specific evaluation of lock or door locking systems that reveals vulnerability.	C–SNSI—Declassify on: Originating Agency's Determination Required (OADR).
Secret if explicit means of surreptitiously gaining access are disclosed.	
260 Threat Response Capability and Procedures	
See also Section 400, Safeguards Analyses and Plans.	
261 Number of security personnel.	
261.1 Information available by visual access from uncontrolled areas to routine guard patrol activities.	U.
261.2 Total security personnel available onsite at a particular time for a site or particular activity including number and type of weapons, other than standard sidearm.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
261.3 Guard force deployment plan or scheme	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
261.4 Size and armament of inhouse reserve forces	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
262 Contingency Plans.	
262.1 Response to a specific threat, e.g., disposition, amament or planned response of security forces including number of personnel responding to specific incidents.	C–SNSI—Declassify on: Originating Agency's Determination Required (OADR).
Secret when revealing increased degree of vulnerability of a site as a result of a specific action.	
262.2 Arrangements with local, state, and federal law enforcement units.	U.
See Topic 262.1.	
262.3 Numerical threat level for contingency planning	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
263 Response Time of Guards and Back-Up Force	

CLASSIFICATION GUIDANCE—Continued

263.1 Response time required	U-CNSI—Declassify on: Originating Agency's Determination Required (OADR).

Unclassified if stated in unclassified NRC manual chapters or regulations.

263.2 Actual response time capabilities	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret when revealing increased degree of vulnerability of a site as a result of a specific action.

264 Security Patrols.	
264.1 Procedures, schedules and frequency for routine security tours	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
264.2 Actual prearranged schedule including the specific times and locations.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
270 Personal Verification (Emergency or Duress) Codes and/or How They Are Used.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
280 Audit and Assessment Information.	
281 General methods for auditing of physical security measures or assessing of these measures.	U.
282 General procedures for routine inspection and testing of equipment (e.g., barriers, alarms, communications).	U.
283 Government sponsored or required evaluations of security systems revealing vulnerabilities or limitations in physical security measures, operating procedures or personnel capabilities.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if significant vulnerabilities are revealed, e.g., degree of seriousness or explicit means of penetrating security defenses.

290 Miscellaneous.	
291 Detailed reports of attempted or successful penetration of nuclear facilities and attempted or successful diversion or theft of special nuclear material within or from a nuclear facility.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

CLASSIFICATION GUIDANCE—Continued

Reports of facts of attempted or successful penetration or diversions, without further elaboration, are unclassified.

Information covered by this topic is declassified when operationally necessary to repel attacks or recover stolen SSNM.

292 Reports of other unusual or abnormal occurrences or incidents, the release of which would not reveal security-related vulnerabilities.	U.
293 Administrative control procedures	U.
294 Complete emergency plans such as fire, safety and radiological emergency plans provided they do not reveal information classified by other topics of this guide.	U.

300 In-Transit Protection of SSNM.

Topics in this section apply only to shipments of formula or greater quantities of SSNM.

Certain classification guidance in the area of In-Transit protection is classified.

301 Fact that SSNM shipments are protected by various unspecified means.	U.
302 Information regarding operations, shipments, routing and protection available as a result of uncontrolled visual access to the shipment when it is in progress.	U.
303 Fact of use of any shipment mode, e.g., air, rail, truck, ship, etc	U.
310 Shipment Contents.	

The classification guidance in this section applies to shipment composition information not classified by other guides, e.g., those relating to production, weapons, or naval reactors; classified topics in such guides take precedence where applicable.

Shipment contents information for a specific shipment is declassified when it is determined to be necessary to release such information in the event of an operational exigency, e.g., vehicle accident.

311 Fact that a specific shipment contains radioactive material	U.
311.1 Any further elaboration as to identity or composition of the material, e.g., fact that it is SSNM, fact that it is PU or U.	CNSI—May be declassified after arrival of shipment at final destination provided neither classified shipping patterns nor other information classified by this guide is revealed.
312 Quantity of SSNM in a particular shipment	CNSI—May be declassified after arrival of shipment at final destination provided neither classified shipping patterns nor other information classified by this guide is revealed.
312.1 Number and size of packages provided that the information classified by other topics of this or other applicable guides is not revealed.	U.

CLASSIFICATION GUIDANCE—Continued

320 Schedules and itinerary for Specific Shipment	
A. Total itinerary is declassified when it is determined to be necessary to release such information.	CNSI—May be declassified after arrival of shipment at final destination provided neither classified shipping patterns nor other information classified by this guide is revealed
1. To uncleared commercial carrier(s) selected to move a shipment(s)	
2. In the process of filing flight plans with FAA	
B. Individual items of schedule information, less than the total itinerary are declassified when it is determined to be necessary to release such information.	
1. In the event of an operational exigency, e.g., vehicle accident or communications failure, when cleared communications facilities are unavailable	
2. In those cases when it is determined to be necessary to advise state or local law enforcement agencies regarding the movement of the shipment through areas under their jurisdiction	
330 SECOM (Secure Communications) Operations	
331 The fact of existence of SECOM System and a general description of the operation.	U.
332 A general description of the SECOM equipment and SECOM Control Center.	U.
But See Topics 334 and 337.	
333 Operating procedures	
333.1 Base Station Operating Procedures....................................	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
333.2 General Mobile Operating Procedures	U.
But See Topics 333.3 and 334.	
333.3 Appendices to General Operating Procedures that concern the security/safeguards of shipments.	CNSI[3]—Declassify on: Originating Agency's Determination Required (OADR)
334 Detailed description of.	
334.1 Operation and equipment....................................	CNSI[3]—Declassify on: Originating Agency's Determination Required (OADR)

CLASSIFICATION GUIDANCE—Continued

334.2 Checkpoint System	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
334.3 Authentication System	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
335 Emergency Response Procedures	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
336 Authenticator Lists	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
336.1 Before use.	
336.2 After use, if information relevant to subsequent use is not revealed.	U.
337 Maps showing in-transit locations of shipments	CNSI—Maps become declassified after removal of in-transit locations
338 Records	
338.1 Voice Recordings	U.
338.2 SECOM station logs	U-SNSI.

Classification of the station log depends upon the level and duration of classification of the information entered in the log.

339 Software and Software Documentation (guidance for specific program to be identified as developed).

Classification level and duration depends upon what information, covered by other topics in this guide, is revealed.

340 Inter-Vehicle Communications	
341 Fact of radio communications and the radio frequencies used between SSNM vehicle and escort vehicles.	U.

Elaboration may be classified

342 Communications procedures and system information not revealing information classified by other topics of this guide.	U.
350 Communications Equipment Per Se	U.
360 Information Concerning Communications Systems Procedures and Equipment which *Must* be exchanged with Local Law Enforcement Agencies Providing it Does not Reveal Information Contained in the Physical Security Plan.	U.
370 Guard Organization And Capabilities	

CLASSIFICATION GUIDANCE—Continued

371 The fact that armed guards accompany special nuclear material shipment.	U.
372 The total number of guards that accompany a particular shipment.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
373 Contingency plans for safeguarding enroute shipments, e.g., disposition, armament or planned response of security forces.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
374 Arrangements with local law enforcement agencies	U
380 Secure Transport Vehicles.	
381 Fact of existence of such vehicles, e.g., Safe Secure ATMX Car, and Special Nuclear Material Vehicles (SNMVs) and commercial vehicles designed to carry and safeguard SSNM.	U.
382 General description of purpose and function, e.g., to reduce the vulnerability of shipment to diversion and to deter unauthorized access to transported cargo.	U.
383 Visual access to vehicle exterior	U.
384 Visual access to vehicle cargo compartment, provided information classified by other topics of this guide is not revealed.	U.
385 Fact of use of specific passive or active protection features	U-CNSI—Declassify on: Originating Agency's Determination Required (OADR)

Fact of use of armor plate, bullet resistant glass, foam, and brake locking is unclassified.

386 Design details of passive or active protection	CNSI—Declassify on: Originating Agency's Determination Required (OADR)

400 Safeguards Analyses and Plans

410 Diversion or Sabotage Vulnerability Studies	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR)
411 Site-specific route specific scenarios for theft, diversion or sabotage.	C-SNSI [2]—Declassify on: Originating Agency's Determination Required (OADR)

Secret if signficiant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses are disclosed.

412 Evaluations scenarios for theft, diversion or sabotage	C-SNSI [2]—Declassify on: Originating Agency's Determination Required (OADR)

CLASSIFICATION GUIDANCE—Continued

Secret if signficiant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses are disclosed.	
13 Site-specific or route specific diversion path or vulnerability analysis.	C–SNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses is disclosed.	
14 Diversion path or vulnerability analysis methodology, e.g., general techniques (fault tree, event tree, systems analysis, etc.).	U.
Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses is disclosed.	
20 Plans for response to threats	C–SNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
21 Fact that current NRC regulations are intended to cover a threat of several people.	U.
22 Vulnerabilities of specific facilities	C–SNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
Secret if significant vulnerability is revealed, e.g., degree of seriousness or explict means of penetrating security defenses.	
23 Threat Levels	
23.1 Specific threat levels against which the NRC licensees can or cannot protect.	C–SNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
23.2 Threat levels against which NRC licensees intend to protect in the future.	C–SNSI—Declassify on: Originating Agency's Determination Required (OADR)
23.3 External and internal threat levels which are used as part of a sensitivity analysis of a security system to threats in that system.	C–SNSI—Declassify on: Originating Agency's Determination Required (OADR)

CLASSIFICATION GUIDANCE—Continued

500 *Safeguards Research, Development, Test, and Evaluation* (*RDT&E*).

510 Generic Functions, General Performance Characteristics, and General Applications Materials, Equipment, Processes, and Conceptual Studies in RDT&E for New or Improved Safeguards, Provided Information Classified by Other Topics in This Guide is Not Revealed.	U.
520 Conceptual Studies for a Generic Facility or Site. The Objectives, Capabilities, and Applications for an Entire Site Security System.	U.
530 Evaluations of Commercial or Commercially Developed Equipment Which has Undergone or is Undergoing Laboratory Testing.	U.
But see Topics 214, 222, 224, 231, 241, 410.	
540 Specifc Performance Capabilities or Vulnerabilities of Systems, Subsystems, Materials, Equipment, or Processes in RDT&E for New or Improved Safeguards..	
541 Information revealing a vulnerability which would significantly assist the bypass or defeat of the integrated safeguards system actually installed (or planned to be installed) at a specific facility or in the transportation system.	CNSI—Declass Originating A Determinatio Required (OA
542 Information about a characteristic or feature that meets all of the following criteria (1) it would significantly delay the bypass or defeat of an operational application, and (2) its presence in an operation configuration and application would not be reasonably expected or predicted.	CNSI—Declass Originating A Determinatio Required (OA
550 Hardware is Classified in Accordance With the Information It Reveals.	

[1] May be declassified after a period of six months from date of inventory asse provided (a) any resulting investigation is completed, and (b) the initial classification nation was not due to extenuating circumstances. ID data remains classified for the of an investigation.

[2] Individual Items of information not revealing (1) significant information concerning security protection, (b) the disposition, armament, or planned response of security f (2) information classified under other topics of this guide or other applicable guides sh submitted through channels to the NRC Division of Security, for possible declassi

[45 FR 14483, Mar. 5, 1980, as amended at 48 FR 24322, June 1, 1983; 48 FR 48644, 1983; 48 FR 51903, Nov. 15, 1983]

PART 100—REACTOR SITE CRITERIA

Sec.
100.1 Purpose.
100.2 Scope.
100.3 Definitions.
100.8 Information collection requirements: OMB approval.

Sec.

SITE EVALUATION FACTORS

100.10 Factors to be considered wh uating sites.
100.11 Determination of exclusio low population zone, and pop center distance.
APPENDIX A TO PART 100—SEISMIC A LOGIC SITING CRITERIA FOR NUCLEA PLANTS

AUTHORITY: Secs. 103, 104 161, 182, 68 Stat. 936, 937, 948, 953, as amended (42 U.S.C. 2133, 2134, 2201, 2232); sec. 201, as amended, 202, 88 Stat. 1242, as amended, 1244 (42 U.S.C. 5841, 5842).

SOURCE: 27 FR 3509, Apr. 12, 1962, unless otherwise noted.

§ 100.1 Purpose.

(a) It is the purpose of this part to describe criteria which guide the Commission in its evaluation of the suitability of proposed sites for stationary power and testing reactors subject to part 50 of this chapter.

(b) Insufficient experience has been accumulated to permit the writing of detailed standards that would provide a quantitative correlation of all factors significant to the question of acceptability of reactor sites. This part is intended as an interim guide to identify a number of factors considered by the Commission in the evaluation of reactor sites and the general criteria used at this time as guides in approving or disapproving proposed sites. Any applicant who believes that factors other than those set forth in the guide should be considered by the Commission will be expected to demonstrate the applicability and significance of such factors.

§ 100.2 Scope.

(a) This part applies to applications filed under part 50 of this chapter for stationary power and testing reactors.

(b) The site criteria contained in this part apply primarily to reactors of a general type and design on which experience has been developed, but can also be applied to other reactor types. In particular, for reactors that are novel in design and unproven as prototypes or pilot plants, it is expected that these basic criteria will be applied in a manner that takes into account the lack of experience. In the application of these criteria which are deliberately flexible, the safeguards provided—either site isolation or engineered features—should reflect the lack of certainty that only experience can provide.

[27 FR 3509, Apr. 12, 1962, as amended at 40 FR 8793, Mar. 3, 1975]

§ 100.3 Definitions.

As used in this part:

(a) *Exclusion area* means that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area. This area may be traversed by a highway, railroad, or waterway, provided these are not so close to the facility as to interfere with normal operations of the facility and provided appropriate and effective arrangements are made to control traffic on the highway, railroad, or waterway, in case of emergency, to protect the public health and safety. Residence within the exclusion area shall normally be prohibited. In any event, residents shall be subject to ready removal in case of necessity. Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result.

(b) *Low population zone* means the area immediately surrounding the exclusion area which contains residents, the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident. These guides do not specify a permissible population density or total population within this zone because the situation may vary from case to case. Whether a specific number of people can, for example, be evacuated from a specific area, or instructed to take shelter, on a timely basis will depend on many factors such as location, number and size of highways, scope and extent of advance planning, and actual distribution of residents within the area.

(c) *Population center distance* means the distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents.

(d) *Power reactor* means a nuclear reactor of a type described in § 50.21(b) or § 50.22 of this chapter designed to produce electrical or heat energy.

(e) *Testing reactor* means a *testing facility* as defined in § 50.2 of this chapter.

§ 100.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0093.

(b) The approved information collection requirements contained in this part appear in appendix A.

[49 FR 19629, May 9, 1984]

SITE EVALUATION FACTORS

§ 100.10 Factors to be considered when evaluating sites.

Factors considered in the evaluation of sites include those relating both to the proposed reactor design and the characteristics peculiar to the site. It is expected that reactors will reflect through their design, construction and operation an extremely low probability for accidents that could result in release of significant quantities of radioactive fission products. In addition, the site location and the engineered features included as safeguards against the hazardous consequences of an accident, should one occur, should insure a low risk of public exposure. In particular, the Commission will take the following factors into consideration in determining the acceptability of a site for a power or testing reactor:

(a) Characteristics of reactor design and proposed operation including:

(1) Intended use of the reactor including the proposed maximum power level and the nature and inventory of contained radioactive materials;

(2) The extent to which generally accepted engineering standards are applied to the design of the reactor;

(3) The extent to which the reactor incorporates unique or unusual features having a significant bearing on the probability or consequences of accidental release of radioactive mate als;

(4) The safety features that are be engineered into the facility a those barriers that must be breach as a result of an accident before a r lease of radioactive material to the e vironment can occur.

(b) Population density and use cha acteristics of the site environs, inclu ing the exclusion area, low populatio zone, and population center distance.

(c) Physical characteristics of th site, including seismology, meteoro ogy, geology, and hydrology.

(1) Appendix A, "Seismic and Ge logic Siting Criteria for Nuclear Powe Plants," describes the nature of inve tigations required to obtain the ge logic and seismic data necessary to de termine site suitability and to provid reasonable assurance that a nuclea power plant can be constructed an operated at a proposed site withou undue risk to the health and safety o the public. It describes procedures fo determining the quantitative vibrator ground motion design basis at a sit due to earthquakes and describes information needed to determine whether and to what extent a nuclear powe plant need be designed to withstand the effects of surface faulting.

(2) Meteorological conditions at the site and in the surrounding area should be considered.

(3) Geological and hydrological characteristics of the proposed site may have a bearing on the consequences of an escape of radioactive material from the facility. Special precautions should be planned if a reactor is to be located at a site where a significant quantity of radioactive effluent might accidentally flow into nearby streams or rivers or might find ready access to underground water tables.

(d) Where unfavorable physical characteristics of the site exist, the proposed site may nevertheless be found to be acceptable if the design of the facility includes appropriate and adequate compensating engineering safeguards.

[27 FR 3509, Apr. 12, 1962, as amended at 38 FR 31281, Nov. 13, 1973]

§ 100.11 Determination of exclusion area, low population zone, and population center distance.

(a) As an aid in evaluating a proposed site, an applicant should assume a fission produce release [1] from the core, the expected demonstrable leak rate from the containment and the meteorological conditions pertinent to his site to derive an exclusion area, a low population zone and population center distance. For the purpose of this analysis, which shall set forth the basis for the numerical values used, the applicant should determine the following:

(1) An exclusion area of such size that an individual located at any point on its boundary for two hours immediately following onset of the postulated fission product release would not receive a total radiation dose to the whole body in excess of 25 rem [2] or a total radiation dose in excess of 300 rem [2] to the thyroid from iodine exposure.

(2) A low population zone of such size that an individual located at any point on its outer boundary who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage) would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure.

(3) A population center distance of at least one and one-third times the distance from the reactor to the outer boundary of the low population zone. In applying this guide, the boundary of the population center shall be determined upon consideration of population distribution. Political boundaries are not controlling in the application of this guide. Where very large cities are involved, a greater distance may be necessary because of total integrated population dose consideration.

(b) For sites for multiple reactor facilities consideration should be given to the following:

(1) If the reactors are independent to the extent that an accident in one reactor would not initiate an accident in another, the size of the exclusion area, low population zone and population center distance shall be fulfilled with respect to each reactor individually. The envelopes of the plan overlay of the areas so calculated shall then be taken as their respective boundaries.

(2) If the reactors are interconnected to the extent that an accident in one reactor could affect the safety of operation of any other, the size of the exclusion area, low population zone and population center distance shall be based upon the assumption that all interconnected reactors emit their postulated fission product releases simultaneously. This requirement may be reduced in relation to the degree of coupling between reactors, the probability of concomitant accidents and the probability that an individual would not be exposed to the radiation effects from simultaneous releases. The applicant would be expected to justify to the satisfaction of the Commission the basis for such a reduction in the source term.

(3) The applicant is expected to show that the simultaneous operation of multiple reactors at a site will not result in total radioactive effluent re-

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[1] The fission product release assumed for these calculations should be based upon a major accident, hypothesized for purposes of site analysis or postulated from considerations of possible accidental events, that would result in potential hazards not exceeded by those from any accident considered credible. Such accidents have generally been assumed to result in substantial meltdown of the core with subsequent release of appreciable quantities of fission products.

[2] The whole body dose of 25 rem referred to above corresponds numerically to the once in a lifetime accidental or emergency dose for radiation workers which, according to NCRP recommendations may be disregarded in the determination of their radiation exposure status (see NBS Handbook 69 dated June 5, 1959). However, neither its use nor that of the 300 rem value for thyroid exposure as set forth in these site criteria guides are intended to imply that these numbers constitute acceptable limits for emergency doses to the public under accident conditions. Rather, this 25 rem whole body value and the 300 rem thyroid value have been set forth in these guides as reference values, which can be used in the evaluation of reactor sites with respect to potential reactor accidents of exceedingly low probability of occurrence, and low risk of public exposure to radiation.

leases beyond the allowable limits of applicable regulations.

NOTE: For further guidance in developing the exclusion area, the low population zone, and the population center distance, reference is made to Technical Information Document 14844, dated March 23, 1962, which contains a procedural method and a sample calculation that result in distances roughly reflecting current siting practices of the Commission. The calculations described in Technical Information Document 14844 may be used as a point of departure for consideration of particular site requirements which may result from evaluation of the characteristics of a particular reactor, its purpose and method of operation.

Copies of Technical Information Document 14844 may be obtained from the Commission's Public Document Room, 2120 L Street NW., Washington, DC, or by writing the Director of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

[27 FR 3509, Apr. 12, 1962, as amended at 31 FR 4670, Mar. 19, 1966; 38 FR 1273, Jan. 11, 1973; 40 FR 8793, Mar. 3, 1975; 40 FR 26527, June 24, 1975; 53 FR 43422, Oct. 27, 1988]

APPENDIX A TO PART 100—SEISMIC AND GEOLOGIC SITING CRITERIA FOR NUCLEAR POWER PLANTS

I. PURPOSE

General Design Criterion 2 of Appendix A to part 50 of this chapter requires that nuclear power plant structures, systems, and components important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. It is the purpose of these criteria to set forth the principal seismic and geologic considerations which guide the Commission in its evaluation of the suitability of proposed sites for nuclear power plants and the suitability of the plant design bases established in consideration of the seismic and geologic characteristics of the proposed sites.

These criteria are based on the limited geophysical and geological information available to date concerning faults and earthquake occurrence and effect. They will be revised as necessary when more complete information becomes available.

II. SCOPE

These criteria, which apply to nuclear power plants, describe the nature of the investigations required to obtain the geologic and seismic data necessary to determine site suitability and provide reasonable assurance that a nuclear power plant can be constr ed and operated at a proposed site wit undue risk to the health and safety of public. They describe procedures for de mining the quantitative vibratory gr motion design basis at a site due to ea quakes and describe information neede determine whether and to what extent clear power plant need be designed to stand the effects of surface faulting. O geologic and seismic factors required t taken into account in the siting and de of nuclear power plants are identified.

The investigations described in this pendix are within the scope of invest tions permitted by § 50.10(c)(1) of this c ter.

Each applicant for a construction pe shall investigate all seismic and geologic tors that may affect the design and o ation of the proposed nuclear power p irrespective of whether such factors are plicitly included in these criteria. Additi investigations and/or more conservative terminations than those included in t criteria may be required for sites locate areas having complex geology or in area high seismicity. If an applicant believes the particular seismology and geology site indicate that some of these criteria portions thereof, need not be satisfied, specific sections of these criteria should identified in the license application, supporting data to justify clearly such partures should be presented.

These criteria do not address investi tions of volcanic phenomena required sites located in areas of volcanic activity. vestigations of the volcanic aspects of s sites will be determined on a case-by-c basis.

III. DEFINITIONS

As used in these criteria:

(a) The *magnitude* of an earthquake measure of the size of an earthquake an related to the energy released in the form seismic waves. *Magnitude* means the num ical value on a Richter scale.

(b) The *intensity* of an earthquake measure of its effects on man, on man-b structures, and on the earth's surface a particular location. *Intensity* means the merical value on the Modified Merc scale.

(c) The *Safe Shutdown Earthquake*[1] is that earthquake which is based upon evaluation of the maximum earthquake tential considering the regional and local ology and seismology and specific charact istics of local subsurface material. It is th earthquake which produces the maximum vibratory ground motion for which certain structures, systems, and components are designed to remain functional. These structures, systems, and components are those necessary to assure:

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[1] The *Safe Shutdown Earthquake* defin that earthquake which has commonly be referred to as the *Design Basis Earthqu*

(1) The integrity of the reactor coolant pressure boundary,

(2) The capability to shut down the reactor and maintain it in a safe shutdown condition, or

(3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part.

(d) The *Operating Basis Earthquake* is that earthquake which, considering the regional and local geology and seismology and specific characteristics of local subsurface material, could reasonably be expected to affect the plant site during the operating life of the plant; it is that earthquake which produces the vibratory ground motion for which those features of the nuclear power plant necessary for continued operation without undue risk to the health and safety of the public are designed to remain functional.

(e) A *fault* is a tectonic structure along which differential slippage of the adjacent earth materials has occurred parallel to the fracture plane. It is distinct from other types of ground disruptions such as landslides, fissures, and craters. A fault may have gouge or breccia between its two walls and includes any associated monoclinal flexure or other similar geologic structural feature.

(f) *Surface faulting* is differential ground displacement at or near the surface caused directly by fault movement and is distinct from nontectonic types of ground disruptions, such as landslides, fissures, and craters.

(g) A *capable fault* is a fault which has exhibited one or more of the following characteristics:

(1) Movement at or near the ground surface at least once within the past 35,000 years or movement of a recurring nature within the past 500,000 years.

(2) Macro-seismicity instrumentally determined with records of sufficient precision to demonstrate a direct relationship with the fault.

(3) A structural relationship to a capable fault according to characteristics (1) or (2) of this paragraph such that movement on one could be reasonably expected to be accompanied by movement on the other.

In some cases, the geologic evidence of past activity at or near the ground surface along a particular fault may be obscured at a particular site. This might occur, for example, at a site having a deep overburden. For these cases, evidence may exist elsewhere along the fault from which an evaluation of its characteristics in the vicinity of the site can be reasonably based. Such evidence shall be used in determining whether the fault is a capable fault within this definition.

Notwithstanding the foregoing paragraphs III(g) (1), (2) and (3), structural association of a fault with geologic structural features which are geologically old (at least pre-Quaternary) such as many of those found in the Eastern region of the United States shall, in the absence of conflicting evidence, demonstrate that the fault is not a capable fault within this definition.

(h) A *tectonic province* is a region of the North American continent characterized by a relative consistency of the geologic structural features contained therein.

(i) A *tectonic structure* is a large scale dislocation or distortion within the earth's crust. Its extent is measured in miles.

(j) A *zone requiring detailed faulting investigation* is a zone within which a nuclear power reactor may not be located unless a detailed investigation of the regional and local geologic and seismic characteristics of the site demonstrates that the need to design for surface faulting has been properly determined.

(k) The *control width* of a fault is the maximum width of the zone containing mapped fault traces, including all faults which can be reasonably inferred to have experienced differential movement during Quaternary times and which join or can reasonably be inferred to join the main fault trace, measured within 10 miles along the fault's trend in both directions from the point of nearest approach to the site. (See Figure 1 of this appendix.)

(l) A *response spectrum* is a plot of the maximum responses (acceleration, velocity or displacement) of a family of idealized single-degree-of-freedom damped oscillators against natural frequencies (or periods) of the oscillators to a specified vibratory motion input at their supports.

IV. REQUIRED INVESTIGATIONS

The geologic, seismic and engineering characteristics of a site and its environs shall be investigated in sufficient scope and detail to provide reasonable assurance that they are sufficiently well understood to permit an adequate evaluation of the proposed site, and to provide sufficient information to support the determinations required by these criteria and to permit adequate engineering solutions to actual or potential geologic and seismic effects at the proposed site. The size of the region to be investigated and the type of data pertinent to the investigations shall be determined by the nature of the region surrounding the proposed site. The investigations shall be carried out by a review of the pertinent literature and field investigations and shall include the steps outlined in paragraphs (a) through (c) of this section.

(a) *Required Investigation for Vibratory Ground Motion.* The purpose of the investigations required by this paragraph is to obtain information needed to describe the vibratory ground motion produced by the Safe Shutdown Earthquake. All of the steps in paragraphs (a)(5) through (a)(8) of this section need not be carried out if the Safe Shutdown Earthquake can be clearly established by investigations and determinations of a lesser scope. The investigations required by this paragraph provide an adequate basis for selection of an Operating Basis Earthquake. The investigations shall include the following:

(1) Determination of the lithologic, stratigraphic, hydrologic, and structural geologic conditions of the site and the region surrounding the site, including its geologic history;

(2) Identification and evaluation of tectonic structures underlying the site and the region surrounding the site, whether buried or expressed at the surface. The evaluation should consider the possible effects caused by man's activities such as withdrawal of fluid from or addition of fluid to the subsurface, extraction of minerals, or the loading effects of dams or reservoirs;

(3) Evaluation of physical evidence concerning the behavior during prior earthquakes of the surficial geologic materials and the substrata underlying the site from the lithologic, stratigraphic, and structural geologic studies;

(4) Determination of the static and dynamic engineering properties of the materials underlying the site. Included should be properties needed to determine the behavior of the underlying material during earthquakes and the characteristics of the underlying material in transmitting earthquake-induced motions to the foundations of the plant, such as seismic wave velocities, density, water content, porosity, and strength;

(5) Listing of all historically reported earthquakes which have affected or which could reasonably be expected to have affected the site, including the date of occurrence and the following measured or estimated data: magnitude or highest intensity, and a plot of the epicenter or location of highest intensity. Where historically reported earthquakes could have caused a maximum ground acceleration of at least one-tenth the acceleration of gravity (0.1g) at the foundations of the proposed nuclear power plant structures, the acceleration or intensity and duration of ground shaking at these foundations shall also be estimated. Since earthquakes have been reported in terms of various parameters such as magnitude, intensity at a given location, and effect on ground, structures, and people at a specific location, some of these data may have to b estimated by use of appropriate empiric relationships. The comparative characteris tics of the material underlying the epicen tral location or region of highest intensit and of the material underlying the site i transmitting earthquake vibratory motio shall be considered;

(6) Correlation of epicenters or location of highest intensity of historically reporte earthquakes, where possible, with tectoni structures any part of which is locate within 200 miles of the site. Epicenters o locations of highest intensity which canno be reasonably correlated with tectonic struc tures shall be identified with tectonic prov inces any part of which is located within 20 miles of the site;

(7) For faults, any part of which is withi 200 miles[2] of the site and which may be o significance in establishing the Safe Shu down Earthquake, determination of wheth er these faults are to be considered as capa ble faults.[3,4] This determination is require in order to permit appropriate consideratio of the geologic history of such faults in e tablishing the Safe Shutdown Earthquake For guidance in determining which fault may be of significance in determining th Safe Shutdown Earthquake, table 1 of thi appendix presents the minimum length o fault to be considered versus distance fro site. Capable faults of lesser length tha those indicated in table 1 and faults whic are not capable faults need not be consid ered in determining the Safe Shutdow Earthquake, except where unusual circumstances indicate such consideration is appropriate;

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[2] If the Safe Shutdown Earthquake can b associated with a fault closer than 200 mile to the site, the procedures of paragraph (a)(7) and (a)(8) of this section need not b carried out for successively more remot faults.

[3] In the absence of absolute dating, evi dence of recency of movement may be ob tained by applying relative dating techniqu to ruptured, offset, warped or otherwi structurally disturbed surface or near su face materials or geomorphic features.

[4] The applicant shall evaluate whether o not a fault is a capable fault with respect t the characteristics outlined in paragraph III(g)(1), (2), and (3) by conducting a rea sonable investigation using suitable geologi and geophysical techniques.

TABLE 1

	Minimum length [1]
Distance from the site (miles):	
0 to 20	1
Greater than 20 to 50	5
Greater than 50 to 100	10
Greater than 100 to 150	20
Greater than 150 to 200	40

[1] Minimum length of fault (miles) which shall be considered in establishing Safe Shutdown Earthquake.

(8) For capable faults, any part of which is within 200 miles[4] of the site and which may be of significance in establishing the Safe Shutdown Earthquake, determination of:

(i) The length of the fault;

(ii) The relationship of the fault to regional tectonic structures; and

(iii) The nature, amount, and geologic history of displacements along the fault, including particularly the estimated amount of the maximum Quaternary displacement related to any one earthquake along the fault.

(b) *Required Investigation for Surface Faulting.* The purpose of the investigations required by this paragraph is to obtain information to determine whether and to what extent the nuclear power plant need be designed for surface faulting. If the design basis for surface faulting can be clearly established by investigations of a lesser scope, not all of the steps in paragraphs (b)(4) through (b)(7) of this section need be carried out. The investigations shall include the following:

(1) Determination of the lithologic, stratigraphic, hydrologic, and structural geologic conditions of the site and the area surrounding the site, including its geologic history;

(2) Evaluation of tectonic structures underlying the site, whether buried or expressed at the surface, with regard to their potential for causing surface displacement at or near the site. The evaluation shall consider the possible effects caused by man's activities such as withdrawal of fluid from or addition of fluid to the subsurface, extraction of minerals, or the loading effects of dams or reservoirs;

(3) Determination of geologic evidence of fault offset at or near the ground surface at or near the site;

(4) For faults greater than 1000 feet long, any part of which is within 5 miles[5] of the site, determination of whether these faults are to be considered as capable faults; [6, 7]

(5) Listing of all historically reported earthquakes which can reasonably be associated with capable faults greater than 1000 feet long, any part of which is within 5 miles[5] of the site, including the date of occurrence and the following measured or estimated data: magnitude or highest intensity, and a plot of the epicenter or region of highest intensity;

(6) Correlation of epicenters or locations of highest intensity of historically reported earthquakes with capable faults greater than 1000 feet long, any part of which is located within 5 miles[5] of the site;

(7) For capable faults greater than 1000 feet long, any part of which is within 5 miles[5] of the site, determination of:

(i) The length of the fault;

(ii) The relationship of the fault to regional tectonic structures;

(iii) The nature, amount, and geologic history of displacements along the fault, including particularly the estimated amount of the maximum Quaternary displacement related to any one earthquake along the fault; and

(iv) The outer limits of the fault established by mapping Quaternary fault traces for 10 miles along its trend in both directions from the point of its nearest approach to the site.

(c) *Required Investigation for Seismically Induced Floods and Water Waves.* (1) For coastal sites, the investigations shall include the determination of:

(i) Information regarding distantly and locally generated waves or tsunami which have affected or could have affected the site. Available evidence regarding the runup and drawdown associated with historic tsunami in the same coastal region as the site shall also be included;

(ii) Local features of coastal topography which might tend to modify tsunami runup or drawdown. Appropriate available evidence regarding historic local modifications in tsunami runup or drawndown at coastal locations having topography similar to that of the site shall also be obtained; and

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[5] If the design basis for surface faulting can be determined from a fault closer than 5 miles to the site, the procedures of paragraphs (b)(4) through (b)(7) of this section need not be carried out for successively more remote faults.

[6] In the absence of absolute dating, evidence of recency of movement may be obtained by applying relative dating techniques to ruptured, offset, warped or otherwise structurally disturbed surface of near-surface materials or geomorphic features.

[7] The applicant shall evaluate whether or not a fault is a capable fault with respect to the characteristics outlined in paragraphs III(g)(1), (2), and (3) by conducting a reasonable investigation using suitable geological and geophysical techniques.

(iii) Appropriate geologic and seismic evidence to provide information for establishing the design basis for seismically induced floods or water waves from a local offshore earthquake, from local offshore effects of an onshore earthquake, or from coastal subsidence. This evidence shall be determined, to the extent practical, by a procedure similar to that required in paragraphs (a) and (b) of this section. The probable slip characteristics of offshore faults shall also be considered as well as the potential for offshore slides in submarine material.

(2) For sites located near lakes and rivers, investigations similar to those required in paragraph (c)(1) of this section shall be carried out, as appropriate, to determine the potential for the nuclear power plant to be exposed to seismically induced floods and water waves as, for example, from the failure during an earthquake of an upstream dam or from slides of earth or debris into a nearby lake.

V. SEISMIC AND GEOLOGIC DESIGN BASES

(a) *Determination of Design Basis for Vibratory Ground Motion.* The design of each nuclear power plant shall take into account the potential effects of vibratory ground motion caused by earthquakes. The design basis for the maximum vibratory ground motion and the expected vibratory ground motion should be determined through evaluation of the seismology, geology, and the seismic and geologic history of the site and the surrounding region. The most severe earthquakes associated with tectonic structures or tectonic provinces in the region surrounding the site should be identified, considering those historically reported earthquakes that can be associated with these structures or provinces and other relevant factors. If faults in the region surrounding the site are capable faults, the most severe earthquakes associated with these faults should be determined by also considering their geologic history. The vibratory ground motion at the site should be then determined by assuming that the epicenters or locations of highest intensity of the earthquakes are situated at the point on the tectonic structures or tectonic provinces nearest to the site. The earthquake which could cause the maximum vibratory ground motion at the site should be designated the Safe Shutdown Earthquake. The specific procedures for determining the design basis for vibratory ground motion are given in the following paragraphs.

(1) *Determination of Safe Shutdown Earthquake.* The Safe Shutdown Earthquake shall be identified through evaluation of seismic and geologic information developed pursuant to the requirements of paragraph IV(a), as follows:

(i) The historic earthquakes of greatest magnitude or intensity which have been correlated with tectonic structures pur
to the requirements of paragraph (a)(
section IV shall be determined. In add
for capable faults, the information req
by paragraph (a)(8) of section IV shal
be taken into account in determining
earthquakes of greatest magnitude re
to the faults. The magnitude or intens
earthquakes based on geologic evidence
be larger than that of the maximum e
quakes historically recorded. The acce
tions at the site shall be determined as
ing that the epicenters of the earthqu
of greatest magnitude or the locatio
highest intensity related to the tec
structures are situated at the point o
structures closest to the site;

(ii) Where epicenters or locations of
est intensity of historically reported e
quakes cannot be reasonably related to
tonic structures but are identified pur
to the requirements of paragraph (a)(
section IV with tectonic provinces in w
the site is located, the accelerations a
site shall be determined assuming
these earthquakes occur at the site;

(iii) Where epicenters or locations of
highest intensity of historically repo
earthquakes cannot be reasonably relate
tectonic structures but are identified pu
ant to the requirements of paragraph (
of section IV with tectonic province
which the site is not located, the acce
tions at the site shall be determined as
ing that the epicenters or locations of h
est intensity of these earthquakes are a
closest point to the site on the boundar
the tectonic province;

(iv) The earthquake producing the m
mum vibratory acceleration at the site
determined from paragraph (a)(
through (iii) of this section shall be d
nated the Safe Shutdown Earthquake
vibratory ground motion, except as note
paragraph (a)(1)(v) of this section.
characteristics of the Safe Shutdown Ea
quake shall be derived from more than
earthquake determined from paragr
(a)(1)(i) through (iii) of this section, w
necessary to assure that the maximum
bratory acceleration at the site through
the frequency range of interest is inclu
In the case where a causative fault is n
the site, the effect of proximity of an ea
quake on the spectral characteristics of
Safe Shutdown Earthquake shall be ta
into account. The procedures in paragra
(a)(1)(i) through (a)(1)(iii) of this sect
shall be applied in a conservative man
The determinations carried out in acc
ance with paragraphs (a)(1)(ii) a
(a)(1)(iii) shall assure that the safe sh
down earthquake intensity is, as a m
mum, equal to the maximum historic ear
quake intensity experienced within the t
tonic province in which the site is loca

in the event that geological and seismological data warrant, the Safe Shutdown Earthquake shall be larger than that derived by use of the procedures set forth in section IV and V of the appendix. The maximum vibratory accelerations of the Safe Shutdown Earthquake at each of the various foundation locations of the nuclear power plant structures at a given site shall be determined taking into account the characteristics of the underlying soil material in transmitting the earthquake-induced motions, obtained pursuant to paragraphs (a)(1), (3), and (4) of section IV. The Safe Shutdown Earthquake shall be defined by response spectra corresponding to the maximum vibratory accelerations as outlined in paragraph (a) of section VI; and

(v) Where the maximum vibratory accelerations of the Safe Shutdown Earthquake at the foundations of the nuclear power plant structures are determined to be less than one-tenth the acceleration of gravity (0.1 g) as a result of the steps required in paragraphs (a)(1)(i) through (iv) of this section, it shall be assumed that the maximum vibratory accelerations of the Safe Shutdown Earthquake at these foundations are at least 0.1 g.

(2) *Determination of Operating Basis Earthquake.* The Operating Basis Earthquake shall be specified by the applicant after considering the seismology and geology of the region surrounding the site. If vibratory ground motion exceeding that of the Operating Basis Earthquake occurs, shutdown of the nuclear power plant will be required. Prior to resuming operations, the licensee will be required to demonstrate to the Commission that no functional damage has occurred to those features necessary for continued operation without undue risk to the health and safety of the public.

The maximum vibratory ground acceleration of the Operating Basis Earthquake shall be at least one-half the maximum vibratory ground acceleration of the Safe Shutdown Earthquake.

(b) *Determination of Need to Design for Surface Faulting.* In order to determine whether a nuclear power plant is required to be designed to withstand the effects of surface faulting, the location of the nuclear power plant with respect to capable faults shall be considered. The area over which each of these faults has caused surface faulting in the past is identified by mapping its fault traces in the vicinity of the site. The fault traces are mapped along the trend of the fault for 10 miles in both directions from the point of its nearest approach to the nuclear power plant because, for example, traces may be obscured along portions of the fault. The maximum width of the mapped fault traces, called the control width, is then determined from this map. Because surface faulting has sometimes occurred beyond the limit of mapped fault traces or where fault traces have not been previously recognized, the control width of the fault is increased by a factor which is dependent upon the largest potential earthquake related to the fault. This larger width delineates a zone, called the zone requiring detailed faulting investigation, in which the possibility of surface faulting is to be determined. The following paragraphs outline the specific procedures for determining the zone requiring detailed faulting investigation for a capable fault.

(1) *Determination of Zone Requiring Detailed Faulting Investigation.* The zone requiring detailed faulting investigation for a capable fault which was investigated pursuant to the requirement of paragraph (b)(7) of section IV shall be determined through use of the following table:

TABLE 2—DETERMINATION OF ZONE REQUIRING DETAILED FAULTING INVESTIGATION

Magnitude of earthquake	Width of zone requiring detailed faulting investigation (See fig. 1)
Less than 5.5	1 x control width.
5.5–6.4	2 x control width.
6.5–7.5	3 x control width.
Greater than 7.5	4 x control width.

The largest magnitude earthquake related to the fault shall be used in table 2. This earthquake shall be determined from the information developed pursuant to the requirements of paragraph (b) of Section IV for the fault, taking into account the information required by paragraph (b)(7) of section IV. The control width used in table 2 is determined by mapping the outer limits of the fault traces from information developed pursuant to paragraph (b)(7)(iv) of section IV. The control width shall be used in table 2 unless the characteristics of the fault are obscured for a significant portion of the 10 miles on either side of the point of nearest approach to the nuclear power plant. In this event, the use in table 2 of the width of mapped fault traces more than 10 miles from the point of nearest approach to the nuclear power plant may be appropriate.

The zone requiring detailed faulting investigation, as determined from table 2, shall be used for the fault except where:

(i) The zone requiring detailed faulting investigation from table 2 is less than one-half mile in width. In this case the zone shall be at least one-half mile in width; or

(ii) Definitive evidence concerning the regional and local characteristics of the fault justifies use of a different value. For example, thrust or bedding-plane faults may require an increase in width of the zone to account for the projected dip of the fault plane; or

(iii) More detailed three-dimensional information, such as that obtained from precise investigative techniques, may justify the use of a narrower zone. Possible examples of such techniques are the use of accurate records from closely spaced drill holes or from closely spaced, high-resolution offshore geophysical surveys.

In delineating the zone requiring detailed faulting investigation for a fault, the center of the zone shall coincide with the center of the fault at the point of nearest approach of the fault to the nuclear power plant as illustrated in figure 1.

(c) *Determination of Design Bases for Seismically Induced Floods and Water Waves.* The size of seismically induced floods and water waves which could affect a site from either locally or distantly generated seismic activity shall be determined, taking into consideration the results of the investigation required by paragraph (c) of section IV. Local topographic characteristics which might tend to modify the possible runup and drawdown at the site shall be considered. Adverse tide conditions shall also be taken into account in determining the effect of the floods and waves on the site. The characteristics of the earthquake to be used in evaluating the offshore effects of local earthquakes shall be determined by a procedure similar to that used to determine the characteristics of the Safe Shutdown Earthquake in paragraph V(a).

(d) *Determination of Other Design Conditions*—(1) *Soil Stability.* Vibratory ground motion associated with the Safe Shutdown Earthquake can cause soil instability due to ground disruption such as fissuring, differential consolidation, liquefaction, and cratering which is not directly related to surface faulting. The following geologic features which could affect the foundations of the proposed nuclear power plant structures shall be evaluated, taking into account the information concerning the physical properties of materials underlying the site developed pursuant to paragraphs (a)(1), (3), and (4) of section IV and the effects of the Safe Shutdown Earthquake:

(i) Areas of actual or potential surface or subsurface subsidence, uplift, or collapse resulting from:

(*a*) Natural features such as tectonic depressions and cavernous or karst terrains, particularly those underlain by calcareous or other soluble deposits;

(*b*) Man's activities such as withdrawal of fluid from or addition of fluid to the subsurface, extraction of minerals, or the loading effects of dams or reservoirs; and

(*c*) Regional deformation.

(ii) Deformational zones such as shears, joints, fractures, folds, or combinations of these features.

(iii) Zones of alteration or irreg
weathering profiles and zones of structu
weakness composed of crushed or distur
materials.

(iv) Unrelieved residual stresses in be
rock.

(v) Rocks or soils that might be unsta
because of their mineralogy, lack of cons
dation, water content, or potentially un
sirable response to seismic or other eve
Seismic response characteristics to be c
sidered shall include liquefaction, thixot
py, differential consolidation, cratering, a
fissuring.

(2) *Slope stability.* Stability of all slop
both natural and artificial, the failure
which could adversely affect the nucle
power plant, shall be considered. An asse
ment shall be made of the potential effe
of erosion or deposition and of combinatio
of erosion or deposition with seismic acti
ty, taking into account information concer
ing the physical property of the materia
underlying the site developed pursuant
paragraph (a)(1), (3), and (4) of section I
and the effects of the Safe Shutdo
Earthquake.

(3) *Cooling water supply.* Assurance
adequate cooling water supply for emerge
cy and long-term shutdown decay heat r
moval shall be considered in the design
the nuclear power plant, taking in to a
count information concerning the physic
properties of the materials underlying
site developed pursuant to paragrap
(a)(1), (3), and (4) of section IV and the e
fects of the Safe Shutdown Earthquake a
the design basis for surface faulting. Consi
eration of river blockage or diversion
other failures which may block the flow
cooling water, coastal uplift or subsidenc
or tsunami runup and drawdown, and fa
ure of dams and intake structures shall b
included in the evaluation, where appropr
ate.

(4) *Distant structures.* Those structure
which are not located in the immediate v
cinity of the site but which are safety rela
ed shall be designed to withstand the effe
of the Safe Shutdown Earthquake and th
design basis for surface faulting determine
on a comparable basis to that of the nucle
power plant, taking into account the mater
al underlying the structures and the diffe
ent location with respect to that of the si

VI. APPLICATION TO ENGINEERING DESIGN

(a) *Vibratory ground motion*—(1) *Sa
Shutdown Earthquake.* The vibrato
ground motion produced by the Safe Shu
down Earthquake shall be defined by re
sponse spectra corresponding to the maxi
mum vibratory accelerations at the eleva
tions of the foundations of the nucle
power plant structures determine pursuan
to paragraph (a)(1) of section V. The re

sponse spectra shall relate the response of the foundations of the nuclear power plant structures to the vibratory ground motion, considering such foundations to be single-degree-of-freedom damped oscillators and neglecting soil-structure interaction effects. In view of the limited data available on vibratory ground motions of strong earthquakes, it usually will be appropriate that the response spectra be smoothed design spectra developed from a series of response spectra related to the vibratory motions caused by more than one earthquake.

The nuclear power plant shall be designed so that, if the Safe Shutdown Earthquake occurs, certain structures, systems, and components will remain functional. These structures, systems, and components are those necessary to assure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe condition, or (iii) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part. In addition to seismic loads, including aftershocks, applicable concurrent functional and accident-induced loads shall be taken into account in the design of these safety-related structures, systems, and components. The design of the nuclear power plant shall also take into account the possible effects of the Safe Shutdown Earthquake on the facility foundations by ground disruption, such as fissuring, differential consolidation, cratering, liquefaction, and landsliding, as required in paragraph (d) of section V.

The engineering method used to insure that the required safety functions are maintained during and after the vibratory ground motion associated with the Safe Shutdown Earthquake shall involve the use of either a suitable dynamic analysis or a suitable qualification test to demonstrate that structures, systems and components can withstand the seismic and other concurrent loads, except where it can be demonstrated that the use of an equivalent static load method provides adequate conservatism.

The analysis or test shall take into account soil-structure interaction effects and the expected duration of vibratory motion. It is permissible to design for strain limits in excess of yield strain in some of these safety-related structures, systems, and components during the Safe Shutdown Earthquake and under the postulated concurrent conditions, provided that the necessary safety functions are maintained.

(2) *Operating Basis Earthquake.* The Operating Basis Earthquake shall be defined by response spectra. All structures, systems, and components of the nuclear power plant necessary for continued operation without undue risk to the health and safety of the public shall be designed to remain functional and within applicable stress and deformation limits when subjected to the effects of the vibratory motion of the Operating Basis Earthquake in combination with normal operating loads. The engineering method used to insure that these structures, systems, and components are capable of withstanding the effects of the Operating Basis Earthquake shall involve the use of either a suitable dynamic analysis or a suitable qualification test to demonstrate that the structures, systems and components can withstand the seismic and other concurrent loads, except where it can be demonstrated that the use of an equivalent static load method provides adequate conservatism. The analysis or test shall take into account soil-structure interaction effects and the expected duration of vibratory motion.

(3) *Required Seismic instrumentation.* Suitable instrumentation shall be provided so that the seismic response of nuclear power plant features important to safety can be determined promptly to permit comparison of such response with that used as the design basis. Such a comparison is needed to decide whether the plant can continue to be operated safely and to permit such timely action as may be appropriate.

These criteria do not address the need for instrumentation that would automatically shut down a nuclear power plant when an earthquake occurs which exceeds a predetermined intensity. The need for such instrumentation is under consideration.

(b) *Surface Faulting.* (1) If the nuclear power plant is to be located within the zone requiring detailed faulting investigation, a detailed investigation of the regional and local geologic and seismic characteristics of the site shall be carried out to determine the need to take into account surface faulting in the design of the nuclear power plant. Where it is determined that surface faulting need not be taken into account, sufficient data to clearly justify the determination shall be presented in the license application.

(2) Where it is determined that surface faulting must be taken into account, the applicant shall, in establishing the design basis for surface faulting on a site take into account evidence concerning the regional and local geologic and seismic characteristics of the site and from any other relevant data.

(3) The design basis for surface faulting shall be taken into account in the design of the nuclear power plant by providing reasonable assurance that in the event of such displacement during faulting certain structures, systems, and components will remain functional. These structures, systems, and components are those necessary to assure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe shut-

down condition, or (iii) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part. In addition to seismic loads, including aftershocks, applicable concurrent functional and accident-induced loads shall be taken into account in the design of such safety features. The design provisions shall be based on an assumption that the design basis for surface faulting can occur in any direction and azimuth and under any part of the nuclear power plant unless evidence indicates this assumption is not appropriate, and shall take into account the estimated rate at which the surface faulting may occur.

(c) *Seismically Induced Floods and Water Waves and Other Design Conditions.* The design basis for seismically induced floods and water waves from either locally or distantly generated seismic activity and other design conditions determined pursuant to paragraphs (c) and (d) of section V, shall be taken into account in the design of the nuclear power plant so as to prevent undue risk to the health and safety of the public.

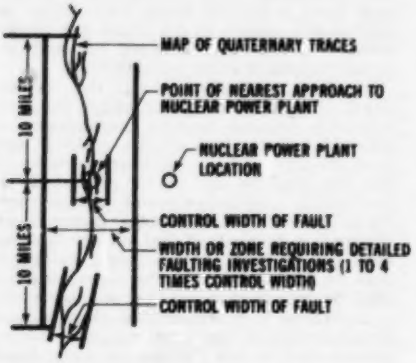
MAP OF QUATERNARY TRACES
POINT OF NEAREST APPROACH TO NUCLEAR POWER PLANT
NUCLEAR POWER PLANT LOCATION
CONTROL WIDTH OF FAULT
WIDTH OR ZONE REQUIRING DETAILED FAULTING INVESTIGATIONS (1 TO 4 TIMES CONTROL WIDTH)
CONTROL WIDTH OF FAULT
10 MILES
10 MILES

FIGURE 1—DIAGRAMMATIC ILLUSTRATION OF DELINEATION OF WIDTH OF ZONE REQUIRING DETAILED FAULTING INVESTIGATIONS FOR SPECIFIC NUCLEAR POWER PLANT LOCATION.

(Sec. 201, Pub. L. 93-438, 88 Stat. 1243 (42 U.S.C. 5841))

[38 FR 31281, Nov. 13, 1973, as amended at 38 FR 32575, Nov. 27, 1973; 42 FR 2052, Jan. 10, 1977]

PART 110—EXPORT AND IMPORT OF NUCLEAR EQUIPMENT AND MATERIAL

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Authority: Secs. 51, 53, 54, 57, 63, 64, 65, 81, 82, 103, 104, 109, 111, 126, 127, 128, 129, 161, 181, 182, 183, 187, 189, 68 Stat. 929, 930, 931, 932, 933, 936, 937, 948, 953, 954, 955, 956, as amended (42 U.S.C. 2071, 2073, 2074, 2077, 2092-2095, 2111, 2112, 2133, 2134, 2139, 2139a, 2141, 2154-2158, 2201, 2231-2233, 2237, 2239); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841).

Section 110.1(b)(2) also issued under Pub. L. 96-92, 93 Stat. 710 (22 U.S.C. 2403). Section 110.11 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152) and secs. 54c and 57d., 88 Stat. 473, 475 (42 U.S.C. 2074). Section 110.27 also issued under sec. 309(a), Pub. L. 99-440. Section 110.50(b)(3) also issued under sec. 123, 92 Stat. 142 (42 U.S.C. 2153). Section 110.51 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 110.52 also issued under sec. 186, 68 Stat. 955 (42 U.S.C. 2236). Sections 110.80–110.113 also issued under 5 U.S.C. 552, 554. Sections 110.30–110.35 also issued under 5 U.S.C. 553.

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 110.20-110.29, 110.50, and 110.120-110.129 also issued under secs. 161 b and i, 68 Stat. 948, 949, as amended (42 U.S.C. 2201 (b) and (i)); and §§ 110.7a and 110.53 are also issued under sec. 161(o), 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 43 FR 21641, May 19, 1978, unless otherwise noted.

Subpart A—General Provisions

§ 110.1 Purpose and scope.

(a) The regulations in this part prescribe licensing, enforcement, and rulemaking procedures and criteria, under the Atomic Energy Act, for the export of nuclear equipment and material, as set out in §§ 110.8 and 110.9, and the import of nuclear equipment and material, as set out in § 110.9a.

(b) The regulations in this part apply to all persons in the United States except: (1) The Departments of Defense and Energy for activities authorized by sections 54, 65, 82, and 91 of the Atomic Energy Act, except when the Department of Energy seeks an export license under section 111 of the Atomic Energy Act; (2) persons who export uranium depleted in the isotope 235 and incorporated in defense articles or commodities solely to take advantage of high density or pyrophoric characteristics, as authorized by section 110 of the International Security and Development Cooperation Act of 1980,[1] and (3) persons who import deuterium, nuclear grade graphite or nuclear equipment other than production or utilization facilities.

[49 FR 47197, Dec. 3, 1984; 49 FR 49841, Dec. 24, 1984, as amended at 55 FR 34519, Aug. 23, 1990]

§ 110.2 Definitions.

As used in this part,

Agreement for cooperation means any agreement with another nation or group of nations concluded under section 123 of the Atomic Energy Act, as amended.

Atomic Energy Act means the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011).

Byproduct material means radioactive material (except special nuclear material) produced by exposure to the radiation incident to the process of producing or using special nuclear material.

Classified information means National Security Information classified under Executive Order 12356.

Commission means the United States Nuclear Regulatory Commission or its duly authorized representatives.

Common defense and security means the common defense and security of the United States.

Deuterium means deuterium and any deuterium compound, including heavy water, in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000.

Effective kilograms of special nuclear material means:

(1) For plutonium and uranium-233, their weight in kilograms;

(2) For uranium enriched 1 percent or greater in the isotope U-235, its element weight in kilograms multiplied by the square of its enrichment expressed as a decimal weight fraction; and

(3) For uranium enriched below 1 percent in the isotope U-235, its element weight in kilograms multiplied by 0.0001.

Executive Branch means the Departments of State, Energy, Defense and Commerce and the Arms Control and Disarmament Agency.

Export means export from the United States.

General license means an export or import license effective without the filing of a specific application with the Commission or the issuance of licensing documents to a particular person.

High-enriched uranium means uranium enriched to 20 percent or greater in the isotope uranium-235.

IAEA means the International Atomic Energy Agency.

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[1] These exports are subject to the controls of the State Department and the Commerce Department under the general authority of the Arms Export Control Act and the Export Administration Act. The Commerce Department also has export licensing authority over additional nuclear-related commodities, such as advanced computers, bulk zirconium and beryllium.

Import means import into the United States.

The phrase *introduced into a hearing* means the introduction or incorporation of testimony or documentary matter into the record of a hearing.

License means a general or specific export or import license issued pursuant to this part.

Licensee means a person authorized by a specific or a general license to export or import nuclear equipment or material pursuant to this part.

Low-enriched uranium means uranium enriched below 20 percent in the isotope uranium-235.

NPT means the Treaty on the Non-Proliferation of Nuclear Weapons (TIAS 6839).

Non-nuclear weapon State means any State not a nuclear weapon State as defined in the Treaty on the Non-Proliferation of Nuclear Weapons. *Nuclear weapon State* means any State which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to January 1, 1967.

Non-Proliferation Act means the Nuclear Non-Proliferation Act of 1978 (Pub. L. 95-242).

NRC records means any documentary material made by, in the possession of, or under the control of the Commission under Federal law or in connection with the transaction of public business as evidence of any of the Commission's activities.

Nuclear grade graphite means graphite with a boron equivalent content of less than 5 parts per million and density greater than 1.5 grams per cubic centimeter.

Nuclear reactor means an apparatus, other than an atomic weapon or nuclear explosive device, designed or used to sustain nuclear fission in a self-supporting chain reaction.

Packaging means one or more receptacles and wrappers and their contents, excluding any special nuclear material, source material or byproduct material, but including absorbent material, spacing structures, thermal insulation, radiation shielding, devices for cooling and for absorbing mechanical shock, external fittings, neutron moderators, nonfissile neutron absorbers and other supplementary equipment.

Participant means a person, identified in a hearing notice or other Commission order, who takes part in a hearing conducted by the Commission under this part, including any person to whom the Commission grants a hearing or leave to intervene in an export or import licensing hearing, either as a matter of right or as a matter of discretion.

Person means any individual, corporation, partnership, firm, association, trust, estate, institution, group, Government agency other than the Commission or, with respect to imports, the Department of Energy; any State or political entity within a State; any foreign government or political entity of such government; and any authorized representative of the foregoing.

Physical security means measures to reasonably ensure that source or special nuclear material will only be used for authorized purposes and to prevent theft or sabotage.

Production facility means any nuclear reactor or plant specially designed or used to produce special nuclear material through the irradiation of source material or special nuclear material, the separation of isotopes or the chemical reprocessing of irradiated source or special nuclear material.

Public Document Room means the place at 2120 L Street NW., Washington, DC, where public records of the Commission are ordinarily available for inspection.

Public health and safety means the public health and safety of the United States.

Retransfer means the transport from one foreign country to another of nuclear equipment or nuclear material previously exported from the United States, or of special nuclear material produced through the use of source material or special nuclear material previously exported from the United States.

Sealed source means any special nuclear material or byproduct material encased in a capsule designed to prevent leakage or escape of that nuclear material.

Secretary means the Secretary of the Commission.

Source material means:

(1) Uranium or thorium, other than special nuclear material; or

(2) Ores which contain by weight 0.05 percent or more of uranium or thorium, or any combination of these.

Special nuclear material means plutonium, uranium-233 or uranium enriched above 0.711 percent by weight in the isotope uranium-235.

Specific license means an export or import license issued to a named person upon an application filed pursuant to this part.

Transfer means the transfer of possession from one person to another person.

Transport means the physical movement of material from one location to another.

Tritium means not only tritium but also includes compounds and mixtures containing tritium in which the ratio of tritium to hydrogen by atoms exceeds one part in 1,000.

United States, when used in a geographical sense, includes Puerto Rico and all territories and possessions of the United States.

Utilization facility means any nuclear reactor, other than one that is a production facility, and the following major components of a nuclear reactor:

(1) Pressure vessels designed to contain the core of a nuclear reactor;

(2) Primary coolant pumps;

(3) Fuel charging or discharging machines; and

(4) Control rods.

A utilization facility does not include the steam turbine generator portion of a nuclear power plant.

[43 FR 21691, May 19, 1978, as amended at 45 FR 18906, Mar. 24, 1980; 49 FR 47197, Dec. 3, 1984; 49 FR 49841, Dec. 24, 1984; 51 FR 27826, Aug. 4, 1986; 53 FR 43422, Oct. 27, 1988]

§ 110.3 Interpretations.

Except as authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part other than a written interpretation by the Commission's General Counsel is binding upon the Commission.

§ 110.4 Inquiries.

Inquiries concerning this part should be addressed to the Assistant Director for International Security, Office of Governmental and Public Affairs, U.S. Nuclear Regulatory Commission, Washington, DC 20555 (Telephone 301-492-0344).

[53 FR 4112, Feb. 12, 1988]

§ 110.5 License requirements.

Except as provided under subpart B of this part, no person may export any nuclear equipment or material listed in §§ 110.8 and 110.9, or import any nuclear equipment or material listed in § 110.9a, unless authorized by a general or specific license issued under this part.

[55 FR 34519, Aug. 23, 1990]

§ 110.6 Retransfers.

(a) Retransfer of any nuclear equipment or material listed in §§ 110.8 and 110.9, including special nuclear material produced through the use of U.S.-origin source material or special nuclear material, requires authorization by the Department of Energy, unless the export to the new destination is authorized under a special or general license or an exemption from licensing requirements. Under certain agreements for cooperation, Department of Energy authorization also is required for the retransfer of special nuclear material produced through the use of non-U.S.-supplied nuclear material in U.S.-supplied utilization facilities.

(b) Requests for authority to retransfer are processed by the Department of Energy, Office of International Nuclear and Non-Proliferation Policy, Washington, DC 20585.

[49 FR 47197, Dec. 3, 1984, as amended at 55 FR 34519, Aug. 23, 1990]

§ 110.7 Information collection requirements: OMB approval.

The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements in §§ 110.26, 110.30, 110.31, 110.50 and 110.53 under control number 3150-0036, and has approved the use of Form NRC-7, as referenced in § 110.30, under control number 3150-0027. No other information collection requirements are contained in part 110.

[49 FR 47197, Dec. 3, 1984]

§ 110.7a Completeness and accuracy of information.

(a) Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

(b) Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Commission of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification shall be provided to the Administrator of the appropriate Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the Commission by other reporting or updating requirements.

[52 FR 49374, Dec. 31, 1987]

§ 110.8 List of Nuclear equipment under NRC export licensing authority.

(a) Nuclear reactors.

(b) Plants for the separation of the isotopes of source material, special nuclear material or lithium, including gas centrifuge plants, gaseous diffusion plants, jet nozzle plants, vortex plants, laser isotope separation plants, and chemical separation plants.

(c) Plants for the reprocessing of irradiated nuclear reactor fuel elements.

(d) Plants for the fabrication of nuclear reactor fuel elements.

(e) Plants for the production of heavy water, deuterium, and deuterium compounds. (See paragraph (f) of this section.)

(f) Any specially designed or prepared assemblies and components for nuclear reactors (see paragraph (a) of this section) and for the plants listed in paragraphs (b) through (e) of this section. (See appendices A, B, C, and D to part 110 for an illustrative listing of specially designed or prepared equipment for a nuclear reactor and gas centrifuge, gaseous diffusion, and reprocessing plants.)

[55 FR 30450, July 26, 1990]

§ 110.9 List of Nuclear Material under NRC export licensing authority.

(a) Special Nuclear Material.

(b) Source Material.

(c) Byproduct Material.

(d) Deuterium.

(e) Nuclear grade graphite.

[55 FR 30450, July 26, 1990]

§ 110.9a List of nuclear equipment and material under NRC import licensing authority.

(a) Production and utilization facilities.

(b) Special nuclear material.

(c) Source material.

(d) Byproduct material.

[49 FR 47198, Dec. 3, 1984. Redesignated at 55 FR 30450, July 26, 1990]

Subpart B—Exemptions

§ 110.10 General.

(a) In response to a request or on its own initiative, the Commission may grant an exemption from the regulations in this part, if it determines that the exemption:

(1) Is authorized by law;

(2) Is not inimical to the common defense and security; and

(3) Does not constitute an unreasonable risk to the public health and safety.

(b) An exemption from statutory licensing requirements, as authorized by sections 57d, 62, and 81 of the Atomic Energy Act, will be granted only after coordination with the Executive Branch and after completion of rulemaking proceedings under Subpart L.

(c) The granting of an exemption does not relieve any person from complying with the regulations of other Government agencies applicable to exports or imports under their authority.

[49 FR 47198, Dec. 3, 1984]

§ 110.11 Export of IAEA safeguards samples.

A person is exempt from the requirements for a license to export special nuclear material set forth in sections 53 and 54d. of the Atomic Energy Act and from the regulations in this part to the extent that the person exports special nuclear material in IAEA safeguards samples, if the samples are exported in accordance with § 75.42(e)(1) of this chapter, or a comparable Department of Energy order, and are in quantities not exceeding a combined total of 100 grams of contained plutonium, U-233 and U-235 per facility per year. This exemption does not relieve any person from complying with parts 71 or 73 of this chapter or any Commission order pursuant to section 201(a) of the Energy Reorganization Act of 1974 (42 U.S.C. 5841(a)).

[49 FR 47198, Dec. 3, 1984]

Subpart C—General Licenses

SOURCE: 49 FR 47198, Dec. 3, 1984, unless otherwise noted.

§ 110.20 General.

(a) In response to a petition or on its own initiative, the Commission may issue a general license for export or import if it determines that any exports or imports made under the general license will not be inimical to the common defense and security or constitute an unreasonable risk to the public health and safety and otherwise meet applicable statutory requirements.

(b) All general licenses will be coordinated with the Executive Branch and will be subject to rulemaking proceedings under subpart L.

(c) A general license does not relieve a person from complying with the regulations of other Government agencies applicable to exports or imports under their authority.

(d) A general license for export may not be used if the exporter knows, or has reason to believe, that the material will be used in any activity related to isotope separation, chemical reprocessing, heavy water production or the fabrication of nuclear fuel containing plutonium, unless these activities are generically authorized under an appropriate agreement for cooperation.

(e) As specified in §§ 110.21 through 110.26, only certain countries are eligible to receive imports of material or equipment under NRC general license. The Commission will closely monitor these countries and may at any time remove a country from its general license eligibility in response to significant adverse developments in the country involved. A key factor in this regard is the nonproliferation credentials of the importing country.

§ 110.21 Export of special nuclear material.

(a) A general license is issued to any person to export the following to any country not listed in § 110.28:

(1) Low-enriched uranium as residual contamination (17.5 parts per million or less) in any item or substance.

(2) Plutonium containing 80 percent or more by weight of plutonium-238 in cardiac pacemakers.

(3) Special nuclear material in sensing components in instruments, if no more than 3 grams of enriched uranium or 0.1 gram of plutonium or U-233 are contained in each sensing component.

(b) A general license is issued to any person to export the following to any country not listed in § 110.28 or § 110.29:

(1) Special nuclear material in individual shipments of 0.001 effective kilograms or less (e.g., 1.0 gram of plutonium, U-233 or U-235, or 10 kilograms of 1 percent enriched uranium). No person may export more than 0.1 effective kilogram per year to any one country.

(2) Special nuclear material in fuel elements as replacements for damaged or defective unirradiated fuel elements

previously exported under a specific license, subject to the same terms as the original export license and the condition that the replaced fuel elements must be returned to the United States within a reasonable time period.

§ 110.22 Export of source material.

(a) A general license is issued to any person to export the following to any country not listed in § 110.28:

(1) Uranium or thorium in any substance in concentrations of less than 0.05 percent by weight.

(2) Thorium in incandescent gas mantles or in alloys in concentrations of 5 percent or less.

(b) A general license is issued to any person to export uranium or thorium in individual shipments of 10 kilograms or less to any country not listed in § 110.28 or § 110.29. No person may export more than 1,000 kilograms per year to any one country.

(c) A general license is issued to any person to export uranium or thorium in individual shipments of 1 kilogram or less to any country listed in § 110.29. No person may export more than 100 kilograms per year to any one country.

§ 110.23 Export of byproduct material.

(a) A general license is issued to any person to export the following to any country not listed in § 110.28:

(1) All byproduct material, except tritium, polonium-210, neptunium-237, and americium-241.

(2) Tritium in any dispersed form (e.g., luminescent light sources, luminescent paint, accelerator targets, calibration standards, labeled compounds) in quantities of 10 curies or less per item. No person may export more than 1,000 curies per shipment or 10,000 curies per year to any one country.

(3) Tritium in luminescent safety devices installed in aircraft.

(4) Polonium-210 in individual shipments of 100 curies or less when contained in static eliminators.

(5) Neptunium-237 in individual shipments of 1 gram or less. No person may export more than 10 grams per year to any one country.

(b) A general license is issued to any person to export americium-241 to any country not listed in § 110.28, except that exports of americium-241 exceeding one curie per shipment or 100 curies per year to any country listed in § 110.29:

(1) Must be contained in industrial process control equipment or petroleum exploration equipment in quantities not exceeding 20 curies per device; and

(2) May not exceed 200 curies per year to any one country.

(c) A general license is issued to any person to export bulk, undispersed tritium in individual shipments of 100 curies or less to any country not listed in § 110.28 or § 110.29. No person may export more than 10,000 curies per year to any one country.

[49 FR 47198, Dec. 3, 1984, as amended at 51 FR 12600, Apr. 14, 1986; 51 FR 27826, Aug. 4, 1986]

§ 110.24 Export of deuterium.

(a) A general license is issued to any person to export deuterium in individual shipments of 10 kilograms or less (50 kilograms of heavy water) to any country not listed in § 110.28 or § 110.29. No person may export more than 200 kilograms (1000 kilograms of heavy water) per year to any one country.

(b) A general license is issued to any person to export deuterium in individual shipments of 1 kilogram or less (5 kilograms of heavy water) to any country listed in § 110.29. No person may export more than 5 kilograms (25 kilograms of heavy water) per year to any one country.

§ 110.25 Export of nuclear grade graphite.

(a) A general license is issued to any person to export bulk nonfabricated nuclear grade graphite in individual shipments of 100 kilograms or less to any country not listed in § 110.28. No person may export more than 2,000 kilograms per year to any one country.

(b) A general license is issued to any person to export nuclear grade graphite in fabricated nonnuclear-related commercial products to any country not listed in § 110.28, except that graphite electrodes weighing more than 1 kilogram per electrode may not be exported to any country listed in § 110.29. Fabricated products are those in final manufactured form except for detailed machining and other final steps necessary for the intended end use of the product.

[49 FR 47193, Dec. 3, 1984; 49 FR 49841, Dec. 24, 1984]

§ 110.26 Export of nuclear reactor components.

(a) A general license is issued to any person to export any nuclear reactor component listed in appendix A (5) through (9) to this part for use in any light or heavy water-moderated power or research reactor in any of the following countries:

Canada
EURATOM [1]
Indonesia
Japan
South Korea
Philippines
Spain
Sweden
Switzerland
Taiwan

(b) This general license does not authorize the export of essentially complete reactors through piecemeal exports of facility components. When individual exports of components would amount in the aggregate to export of an essentially complete nuclear reactor, a facility export license is required.

(c) Persons making exports under the general license established by paragraph (a) of this section shall submit by February 1 of each year one copy of a report of all components shipped during the previous calendar year. This report must include:

(1) A description of the components keyed to the categories listed in appendix A to this part.

(2) Approximate shipment dates.

(3) A list of recipient countries and endusers keyed to the items shipped.

[49 FR 47198, Dec. 3, 1984, as amended at 55 FR 34519, Aug. 23, 1990]

§ 110.27 Imports.

(a) Except as noted in paragraph (b) of this section, a general license is issued to any person to import byproduct, source, or special nuclear material if the consignee is authorized to possess the material under:

(1) A contract with the Department of Energy;

(2) An exemption from licensing re quirements issued by the Commission or

(3) A general or specific licens issued by the Commission or a Stat with which the Commission has en tered into an agreement under Sectio 274b. of the Atomic Energy Act.

(b) The general license in paragraph (a) of this section does not authorize

(1) The import of source or special nuclear material in the form of irradi ated fuel that exceeds 100 kilogram per shipment; or

(2) The import of uranium of South African origin in any form. As used i this paragraph, "South African origin" includes uranium from the Re public of South Africa; any territory under the administration, legal or ille gal, of South Africa (including Na mibia); and the "bantustans" o "homelands", to which South African blacks are assigned on the basis o ethnic origin, including the Transkei Bophuthatswana, Ciskei, and Venda.

(c) Any person importing special nu clear material under this general li cense shall provide advance notifica tion of imports to the Commission a specified in § 73.27 of this chapter.

[51 FR 47208, Dec. 31, 1986]

§ 110.28 Embargoed destinations.

Cuba, Kampuchea, North Korea Vietnam.

§ 110.29 Restricted destinations.

Afghanistan
Albania
Algeria
Andorra
Angola
Argentina
Bahrain
Brazil
Burma
Chile
Comoros
Djibouti
Guyana
India
Iran
Iraq
Israel
Kuwait
Libya
Malawi
Mauritania
Mozambique
Niger
Oman
Pakistan
Qatar
Saudi Arabia
South Africa
St. Kitts
Syria
Tanzania
United Arab Emirates
Vanuatu
Yemen Arab Republic
Zambia
Zimbabwe

[51 FR 12600, Apr. 14, 1986]

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[1] Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, the United Kingdom and West Germany.

Subpart D—Applications for Specific Licenses

§ 110.30 Filing license applications.

(a) A person shall file a license application with the Assistant Director for International Security, Office of Governmental and Public Affairs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, or deliver the application in person to the Commission's Offices at 11555 Rockville Pike, Rockville, MD, or at 2120 L Street NW., Washington, DC.

(b) An export license application should be filed on Form NRC 7 unless it is for a license to export a production or utilization facility. An import license application and a production or utilization facility export license application should be filed by letter. Upon request, applications may be filed by telegram.

(c) Each person shall provide in the license application, as appropriate, the information specified in § 110.31. The Commission may also require the submission of additional information if necessary to complete its review.

(d) A consolidated license application may be filed covering multiple shipments.

(e) Information in a previous license application may be incorporated by reference.

(f) An applicant shall withdraw an application whenever it is no longer needed. The Commission's official files retain all documents related to a withdrawn application.

[49 FR 47200, Dec. 3, 1984, as amended at 53 FR 17916, May 19, 1988; 55 FR 51401, Dec. 14, 1990]

§ 110.31 Information required in license applications.

(a) Name and address of applicant.

(b) Name and address of supplier of equipment or material.

(c) Country of origin of equipment or material, if known.

(d) Names and addresses of all intermediate and ultimate consignees, other than intermediate consignees performing shipping services only.

(e) Dates of proposed first and last shipments.

(f) Description of the equipment or material including, as appropriate, the following:

(1) Maximum quantity of material in grams or kilograms (curies for byproduct material) and its chemical and physical form.

(2) For enriched uranium, the maximum weight percentage of enrichment and maximum weight of contained U-235.

(3) For nuclear equipment, total dollar value.

(4) For nuclear reactors, the name of the facility and its design power level.

(5) Description of end use by all consignees in sufficient detail to permit accurate evaluation of the justification for the proposed export or import, including the need for shipment by the dates specified.

[49 FR 47200, Dec. 3, 1984]

Subpart E—Review of License Applications

§ 110.40 Commission review.

(a) Immediately after receipt of a license application, the Commission will initiate its licensing review and, to the maximum extent feasible, will expeditiously process the application concurrently with review by the Executive Branch.

(b) The Commissioners shall review a license application for export of the following:

(1) A production or utilization facility.

(2) More than one effective kilogram of high-enriched uranium, plutonium or U-233.

(3) 1,000 kilograms or more of heavy water or nuclear grade graphite.

(4) An export involving assistance to end uses related to isotope separation, chemical reprocessing, heavy water production, advanced reactors or the fabrication of nuclear fuel containing plutonium, except for categories of exports approved in advance by the Commission as constituting permitted incidental assistance.

(5) The initial export to a country since March 10, 1978 of source or special nuclear material for nuclear end use.

(6) An export involving over: (i) 10 grams of plutonium, U-233 or high-enriched uranium; (ii) 1 effective kilogram of low-enriched uranium; (iii) 250 kilograms of source material, heavy water or nuclear grade graphite; or (iv) 1,000 curies of tritium, to any country listed in § 110.28 or § 110.29.

(7) Any export subject to special limitations as determined by the staff or a majority of the Commissioners.

(c) If the Commission has not completed action on a license application within 60 days after receipt of the Executive Branch judgment, as provided for in § 110.41, or the license application when an Executive Branch judgment is not required, it will inform the applicant in writing of the reason for delay and, as appropriate, provide followup reports.

[43 FR 21641, May 19, 1978, as amended at 45 FR 51184, Aug. 1, 1980; 49 FR 47200, Dec. 3, 1984]

§ 110.41 Executive Branch review.

(a) A license application for export of the following will be promptly forwarded to the Executive Branch for review:

(1) A production or utilization facility.

(2) More than one effective kilogram of high-enriched uranium or 10 grams of plutonium or U-233.

(3) Deuterium, nuclear grade graphite, or over 100 curies of tritium.

(4) Source or special nuclear material to be exported under the US-IAEA Agreement for Cooperation.

(5) An export involving assistance to end uses related to isotope separation, chemical reprocessing, heavy water production, advanced reactors or the fabrication of nuclear fuel containing plutonium, except for categories of exports approved in advance by the Executive Branch as constituting permitted incidental assistance.

(6) The initial export of nuclear material or equipment to a foreign reactor.

(7) An export to any country listed in § 110.28 or § 110.29.

(8) An export subject to special limitations as determined by the Commission or the Executive Branch.

(b) The Executive Branch will be requested to:

(1) Provide its judgment as to whether the proposed export would be inimical to the common defense and security, along with supporting rationale and information.

(2) Where applicable, confirm that the proposed export would be under the terms of an agreement for cooperation; and

(3) Address the extent to which the export criteria in § 110.42 are met, if applicable, and the extent to which the recipient country or group of countries has adhered to the provisions of any applicable agreement for cooperation.

(c) The Commission may request the Executive Branch to address specific concerns and provide additional data and recommendations as necessary.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47200, Dec. 3, 1984]

§ 110.42 Export licensing criteria.

(a) The review of license applications for the export for peaceful nuclear uses of production or utilization facilities,[3] special nuclear material and source material is governed by the following criteria:

(1) IAEA safeguards as required by Article III (2) of the NPT will be applied with respect to any such facilities or material proposed to be exported, to any such material or facilities previously exported and subject to the applicable agreement for cooperation, and to any special nuclear material used in or produced through the use thereof.

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[3] Exports of complete nuclear reactors, complete reactor pressure vessels, primary coolant pumps, control rods, and reactor fuel charging and discharging machines are subject to the comprehensive export criteria in § 110.42(a). A complete nuclear reactor includes those parts and components, as specified in appendix A to this part, which are within or attached directly to the reactor vessel, which control the level of power in the reactor core or which normally contain or come in direct contact with or control the primary coolant of the reactor. Nuclear reactor parts and components (other than complete pressure vessels, primary coolant pumps, control rods, or fuel charging and discharging machines) when exported separately are subject to the export criteria in § 110.42(b).

(2) No such material or facilities proposed to be exported or previously exported and subject to the applicable agreement for cooperation, and no special nuclear material produced through the use of such material or facilities, will be used for any nuclear explosive device or for research on or development of any nuclear explosive device.

(3) Adequate physical security measures will be maintained with respect to such material or facilities proposed to be exported and to any special nuclear material used in or produced through the use thereof. Physical security measures will be deemed adequate if such measures provide a level of protection equivalent to that set forth in § 110.43.

(4) No such material or facilities proposed to be exported, and no special nuclear material produced through the use of such material, will be retransferred to the jurisdiction of any other country or group of countries unless the prior approval of the United States is obtained for such retransfer.

(5) No such material proposed to be exported and no special nuclear material produced through the use of such material will be reprocessed, and no irradiated fuel elements containing such material removed from a reactor will be altered in form or content, unless the prior approval of the United States is obtained for such reprocessing or alteration.

(6) With respect to exports of such material or facilities to nonnuclear weapon states, IAEA safeguards will be maintained with respect to all peaceful activities in, under the jurisdiction of, or carried out under the control of such state at the time of export. This criterion will not be applied if the Commission has been notified by the President in writing that failure to approve an export because this criterion has not been met would be seriously prejudicial to the achievement of United States nonproliferation objectives or otherwise jeopardize the common defense and security, in which case the provisions of section 128 of the Atomic Energy Act regarding Congressional review will apply.

(7) The proposed export of a facility or of more than 0.003 effective kilograms of special nuclear material, other than plutonium containing 80 percent or more by weight of plutonium-238, would be under the terms of an agreement for cooperation.

(8) The proposed export is not inimical to the common defense and security and, in the case of facility exports, does not constitute an unreasonable risk to the public health and safety in the United States.

(b) The review of license applications for the export of nuclear equipment, other than a production or utilization facility, and for deuterium and nuclear grade graphite, is governed by the following criteria:

(1) IAEA safeguards as required by Article III (2) of the NPT will be applied with respect to such equipment or material.

(2) No such equipment or material will be used for any nuclear explosive device or for research on or development of any nuclear explosive device.

(3) No such equipment or material will be retransferred to the jurisdiction of any other country or group of countries without the prior consent of the United States.

(4) The proposed export is not inimical to the common defense and security.

(c) The review of license applications for the export of byproduct material and for source material for nonnuclear end uses is governed by the criterion that the proposed export is not inimical to the common defense and security.

[49 FR 47200, Dec. 3, 1984, as amended at 55 FR 34519, Aug. 23, 1990]

§ 110.43 Physical security standards.

(a) Commission determinations on the adequacy of physical security programs in recipient countries for Category I quantities of nuclear material (see appendix E to this part) are based upon the following:

(1) Review of the physical security program established by the recipient country and of the implementation of the national requirements, as considered through country visits and other information exchanges, to ensure that

the physical security measures provide, as a minimum protection comparable to that set forth in the International Atomic Energy publication INFCIRC/225 Rev. 1, entitled "The Physical Protection of Nuclear Material" (INFCIRC/225), which is incorporated by reference in this part. This incorporation by reference was approved by the Director of the Federal Register on May 3, 1978. Notice of any changes to the publication will be published in the FEDERAL REGISTER. Copies of INFCIRC/225 may be obtained from the Assistant Director for International Security, Office of Governmental and Public Affairs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and are available for inspection in the Commission Public Document Room. A copy is on file in the library of the Office of the Federal Register.

(2) Written assurances from the recipient country or group of countries that physical security measures providing, as a minimum, protection comparable to that set forth in INFCIRC/225 will be maintained.

(b) Commission determinations on the adequacy of physical security programs in recipient countries for Categories II and III quantities of material (see appendix E of this part) are based on available relevent information and written assurances from the recipient country or group of countries that physical security measures providing, as a minimum, protection comparable to that set forth in INFCIRC/225 will be maintained.

(c) Commission determinations on the adequacy of physical security programs in recipient countries for exported facilities are made in accordance with the categories of material (see appendix E to this part) in use or in storage at the exported facilities and are based on available relevant information and written assurances from the recipient country or group of countries that physical security measures providing, as a minimum, protection comparable to that set forth in INFCIRC/225 will be maintained.

(d) Commission determinations may be based on a country-wide finding rather than on case-by-case analysis. The Commission will reexamine a determination whenever there are
changed circumstances within a cou
try that might reduce the effecti
ness of its physical security program

[49 FR 47201, Dec. 3, 1984, as amended at
FR 4112, Feb. 12, 1988; 55 FR 34519, A
23, 1990]

§ 110.44 Issuance or denial of licenses.

(a) The Commission will issue
export license if it has been notifi
by the State Department that it is t
judgment of the Executive Bran
that the proposed export will not
inimical to the common defense a
security; and:

(1) Finds, based upon a reasonab
judgment of the assurances provide
and other information available to t
Federal government, that the applic
ble criteria in § 110.42, or their equiv
lent, are met. (If an Executive Ord
provides an exemption pursuant
section 126a of the Atomic Energy Ac
proposed exports to EURATOM cou
tries are not required to meet the c
tieria in § 110.42(a) (4) and (5)); or

(2) Finds that there are no materi
changed circumstances associated wit
an export license application (excep
for byproduct material application
from those existing at the time of iss
ance of a prior license to export to th
same country, if the prior license w
issued under the provisions of par
graph (a)(1) of this section.

(b) The Commission will issue a
import license if it finds that the pr
posed import would not be inimical t
the common defense and security o
constitute an unreasonable risk to th
public health and safety and that an
applicable requirements of subpart
of part 51 of this chapter have bee
satisfied.

(c) If, after receiving the Executiv
Branch judgment that the issuance o
a proposed export license will not b
inimical to the common defense an
security, the Commission does no
issue the proposed license on a timel
basis because it is unable to make th
statutory determinations require
under the Atomic Energy Act, th
Commission will publicly issue a dec
sion to that effect, and will submit th
license application to the President
The Commission's decision will includ
an explanation of the basis for the de-

cision and any dissenting or separate views. The provisions in this paragraph do not apply to byproduct material export license applications.

(d) The Commission will deny: (1) Any export license application for which the Executive Branch judgment does not recommend approval; (2) any byproduct material export license application for which the Commission is unable to make the finding in paragraph (a)(1) of this section; or (3) any import license application for which the Commission is unable to make the finding in paragraph (b) of this section. The applicant will be notified in writing of the reason for denial.

[49 FR 47201, Dec. 3, 1984]

§ 110.45 Conduct resulting in termination of nuclear exports.

(a) Except as provided in paragraph (c) of this section, no license will be issued to export nuclear equipment or material, other than byproduct material, to any non-nuclear weapon state that is found by the President to have, after March 10, 1978:

(1) Detonated a nuclear explosive device;

(2) Terminated or abrogated IAEA safeguards;

(3) Materially violated an IAEA safeguards agreement; or

(4) Engaged in activities involving source or special nuclear material and having direct significance for the manufacture or acquisition of nuclear explosive devices, and failed to take steps which represent sufficient progress toward terminating such activities.

(b) Except as provided in paragraph (c) of this section, no license will be issued to export nuclear equipment or material, other than byproduct material, to any country or group of countries that is found by the President to have, after March 10, 1978:

(1) Materially violated an agreement for cooperation with the United States or the terms of any other agreement under which nuclear equipment or material has been exported;

(2) Assisted, encouraged or induced any non-nuclear weapon state to engage in activities involving source or special nuclear material and having direct significance for the manufacture or acquistion of nuclear explosive devices, and failed to take steps which represent sufficient progress toward terminating such assistance, encouragement or inducement; or

(3) Entered into an agreement for the transfer of reprocessing equipment, materials or technology to the sovereign control of a non-nuclear weapon state, except in connection with an international fuel cycle evaluation in which the United States is a participant or pursuant to an international agreement or understanding to which the United States subscribes.

(c) Under section 129 of the Atomic Energy Act, the President may waive the requirement for the termination of exports to a country described in paragraph (a) or (b) of this section after determining in writing that the cessation of exports would seriously prejudice the achievement of United States nonproliferation objectives or otherwise jeopardize the common defense and security. If the President makes this determination, the Commission will issue licenses to export to that country, if other applicable statutory provisions are met.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47202, Dec. 3, 1984]

Subpart F—License Terms and Related Provisions

§ 110.50 Terms.

(a) *General and specific licenses.* (1) Each license is subject to all applicable provisions of the Atomic Energy Act and to all applicable rules, regulations, decisions and orders of the Commission.

(2) Each license is subject to amendment, suspension, revocation or incorporation of separate conditions when required by amendments of the Atomic Energy Act or other applicable law, or by other rules, regulations, decisions or orders issued in accordance with the terms of the Atomic Energy Act or other applicable law.

(3) Each license authorizes export or import only and does not authorize any person to receive title to, acquire, receive, possess, deliver, use or transfer nuclear equipment or material.

(4) Each nuclear material license authorizes the export or import of only

the nuclear material and accompanying packaging and fuel element hardware.

(5) No nuclear equipment license confers authority to export or import nuclear material.

(6) Each nuclear equipment export license authorizes the export of only those items required for use in the foreign nuclear installation for which the items are intended.

(7) A licensee shall not proceed to export or import and shall notify the Commission promptly if he knows or has reason to believe that the packaging requirements of part 71 of this chapter have not been met.

(b) *Specific licenses.* (1) Each specific license will have an expiration date.

(2) A licensee may export or import only for the purpose stated in the license application.

(3) Unless a license specifically authorizes the export of foreign-origin nuclear material or equipment, a licensee shall notify in writing the Assistant Director for International Security at least 40 days prior to export of Australian-origin or Canadian-origin nuclear material or equipment. A licensee may not ship this material or equipment until authorized by the Assistant Director for International Security. The Assistant Director for International Security will not authorize shipment until after obtaining the consent of the Australian Government for Australian-origin material or the Canadian Government for Canadian-origin material.

(4) A licensee authorized to export or import nuclear material is responsible for compliance with applicable requirements of parts 40, 70, and 73 of this chapter, unless a domestic licensee of the Commission has assumed that responsibility and the Commission has been so notified.

(5) A license may be transferred, disposed of or assigned to another person only with the approval of the Commission by license amendment.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47202, Dec. 3, 1984; 49 FR 49841, Dec. 24, 1984; 52 FR 9655, Mar. 26, 1987; 53 FR 4112, Feb. 12, 1988]

§ 110.51 Amendment and renewal of licenses.

(a) A licensee may submit an application to renew a license or to amend a license.

(b) If an application to renew a license is submitted 30 days or more before the license expires, the license remains valid until the Commission acts on the renewal application. An expired license is not renewable.

(c) An amendment is not required for:

(1) Changes in value (but not amount or quantity);

(2) Changes in the mailing addresses within the same countries of intermediate or ultimate consignees; or

(3) The addition of intermediate consignees in any of the importing countries specified in the license (for a nuclear equipment license only).

(d) In acting upon license renewal and amendment applications, the Commission will use, as appropriate, the same procedures and criteria it uses for original license applications.

[49 FR 47202, Dec. 3, 1984]

§ 110.52 Revocation, suspension, and modification.

(a) A license may be revoked, suspended, or modified for a condition which would warrant denial of the original license application.

(b) The Commission may require further information from a licensee to determine whether a license should be revoked, suspended, or modified.

(c) Except when the common defense and security or public health and safety requires otherwise, no license will be revoked, suspended, or modified before the licensee is informed in writing of the grounds for such action and afforded the opportunity to reply and be heard under procedures patterned on those in subpart J.

§ 110.53 United States address, records, and inspections.

(a) Each licensee shall have an office in the United States where papers may be served and where records required by the Commission will be maintained.

(b)(1) Each licensee shall maintain records concerning his exports or imports. The licensee shall retain these records for five years after each export or import except that byproduct material records must be retained for three years after each export or import.

(2) Records which must be maintained pursuant to this part may be the original or a reproduced copy or microform if such reproduced copy or microform is duly authenticated by authorized personnel and the microform is capable of producing a clear and legible copy after storage for the period specified by Commission regulations. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

(c) Each licensee shall permit the Commission to inspect his records, premises, and activities pertaining to his exports and imports when necessary to fulfill the requirements of the Atomic Energy Act.

[43 FR 21641, May 19, 1978, as amended at 53 FR 19263, May 27, 1988]

Subpart G—Violations and Enforcement

§ 110.60 Violations.

(a) A licensee who violates a provision of the Atomic Energy Act or title II of the Energy Reorganization Act or of any rule, regulation, license, or order promulgated under these Acts may be guilty of a crime, and, upon conviction, may be punished by fine and imprisonment as provided by law;

(b) An injuction or other court order may be obtained to prohibit any such violation.

(c) A court order may be obtained for payment of a civil penalty imposed pursuant to section 234 of the Atomic Energy Act.

(d) A violation may result in the revocation, suspension, or modification of a license.

§ 110.61 Notice of violation.

(a) Before instituting any enforcement action the Commission will serve on the licensee written notice of violation, except as provided in paragraph (d).

(b) The notice will state the alleged violation; require the licensee to respond in writing, within 20 days or other specified time; and may also require the licensee to state the corrective steps taken or to be taken and the date when full compliance will be achieved.

(c) The notice may provide that, if an adequate and timely reply is not received, an order to show cause may be issued pursuant to § 110.62 or a proceeding instituted to impose a civil penalty pursuant to § 110.64.

(d) The notice may be omitted and an order to show cause issued when the Commission determines that the violation is willful or that the public health, safety, or interest so requires.

§ 110.62 Order to show cause.

(a) In response to an alleged violation, described in § 110.60, the Commission may institute a proceeding to revoke, suspend, or modify a license by issuing an order to show cause:

(1) Stating the alleged violation and proposed enforcement action; and

(2) Informing the licensee of his right, within 20 days or other specified time, to file a written answer and demand a hearing.

(b) An answer consenting to the proposed enforcement action shall constitute a waiver by the licensee of a hearing and of all rights to seek further Commission or judicial review.

(c) The order to show cause may be omitted and an order issued to revoke, suspend, or modify the license in cases where the Commission determines that the violation is willful or that the public health, safety, or interest so requires.

§ 110.63 Order for revocation, suspension, or modification.

(a) In response to an alleged violation described in § 110.60, the Commission may revoke, suspend, or modify a license by issuing an order:

(1) Stating the violation and the effective date of the proposed enforcement action; and

(2) Informing the licensee of his right, within 20 days or other specified time, to file a written answer and demand a hearing.

(b) If an answer is not filed within the time specified, the enforcement action will become effective and permanent as proposed.

(c) If a timely answer is filed, the Commission, after considering the answer, will issue an order dismissing the proceeding, staying the effectiveness of the order or taking other appropriate action.

(d) The order may be made effective immediately, with reasons stated, pending further hearing and order, when the Commission determines that the violation is willful or that the public health, safety, or interest so requires.

§ 110.64 Civil penalty.

(a) In response to a violation, the Commission may institute a proceeding to impose a civil penalty under section 234 of the Atomic Energy Act by issuing a notice to the licensee:

(1) Stating the alleged violation and the amount of the proposed penalty;

(2) Informing the licensee of his right, within 20 days or other specified time, to file a written answer; and

(3) Advising that a delinquent payment for a subsequently imposed penalty may be referred to the Attorney General for collection pursuant to section 234c. of the Atomic Energy Act.

(b) If an answer is not filed within the time specified, the Commission will issue an order imposing the proposed penalty.

(c) If a timely answer is filed, the Commission, after considering the answer, will issue an order dismissing the proceeding or imposing a penalty subject to any required hearing.

(d) If an order imposing a civil penalty is issued, the licensee may request a hearing within 20 days or other specified time.

(e) Except when the matter has been referred to the Attorney General for collection, payment of penalties shall be made by check, draft, or money order payable to the Treasurer of the United States, and mailed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(f) An enforcement action to impose a civil penalty will not itself revoke, modify, or suspend any license under this part.

§ 110.65 Settlement and compromise.

At any time after issuance of an order for any enforcement action under this subpart, an agreement may be entered into for settlement of the proceeding or compromise of a penalty. Upon approval by the Commission, or presiding officer if a hearing has been requested, the terms of the settlement or compromise will be embodied in the order disposing of the enforcement action.

§ 110.66 Enforcement hearing.

(a) If the licensee demands a hearing, the Commission will issue an order specifying the time and place.

(b) A hearing pursuant to this subpart will be conducted under the procedures in subpart G of part 2.

Subpart H—Public Notification and Availability of Documents and Records

§ 110.70 Public notice of receipt of an application.

(a) The Commission will notice the receipt of each export or import license application by placing a copy in the Public Document Room.

(b) The Commission will also publish in the Federal Register a notice of receipt of an application for a license to export the following:

(1) A production or utilization facility.

(2) Five effective kilograms or more of plutonium, high-enriched uranium or uranium-233.

(3) 10,000 kilograms or more of heavy water or nuclear grade graphite.

(c) Periodic lists of applications received may be obtained upon request addressed to the Assistant Director for International Security, Office of Government and Public Affairs, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47202, Dec. 3, 1984; 53 FR 4112, Feb. 12, 1988]

§ 110.71 Notice of withdrawal of an application.

The Commission will notice the withdrawal of an application by placing a copy of the withdrawal request in the Public Document Room. ,

§ 110.72 Availability of documents in the Public Document Room.

Unless exempt from disclosure under part 9 of this chapter, the following documents pertaining to each license application and license will be made available in the Public Document Room:

(a) The license application and any requests for amendments;

(b) Commission correspondence with the applicant or licensee;

(c) FEDERAL REGISTER notices;

(d) The Commission letter requesting Executive Branch views;

(e) Correspondence from the State Department with Executive Branch views;

(f) Correspondence from foreign governments and international organizations;

(g) Filings pursuant to subpart I and Commission and Executive Branch responses, if any;

(h) If a hearing is held, the hearing record and decision;

(i) A statement of staff conclusions; and

(j) The license, requests for license amendments and amendments.

§ 110.73 Availability of NRC records.

(a) Commission records under this part will be made available to the public only in accordance with part 9 of this chapter.

(b) Proprietary information provided under this part may be protected under part 9 and § 2.790 (b), (c), and (d) of this chapter.

Subpart I—Public Participation Procedures Concerning License Applications

§ 110.80 Basis for hearings.

The procedures in this part will constitute the exclusive basis for hearings on export license applications.

§ 110.81 Written comments.

(a) The Commission encourages written comments from the public regarding export and import license applications. The Commission will consider and, if appropriate, respond to these comments.

(b) If possible, these comments should be submitted within 30 days after public notice of receipt of the application and addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Chief, Docketing and Service Branch.

(c) The Commission will provide the applicant with a copy of the comments and, if appropriate, a reasonable opportunity for response.

§ 110.82 Hearing request or intervention petition.

(a) A person may request a hearing or petition for leave to intervene on a license application.

(b) Hearing requests and intervention petitions must:

(1) State the name, address and telephone number of the requestor or petitioner;

(2) Set forth the issues sought to be raised;

(3) Explain why a hearing or an intervention would be in the public interest and how a hearing or intervention would assist the Commission in making the determinations required by § 110.44.

(4) Specify, when a person asserts that his interest may be affected, both the facts pertaining to his interest and how it may be affected, with particular reference to the factors in § 110.84.

(c) Hearing requests and intervention petitions will be considered timely only if filed not later than:

(1) 30 days after notice of receipt in the FEDERAL REGISTER, for those appli-

cations published in the FEDERAL REGISTER;

(2) 15 days after notice of receipt in the Public Document Room, for all other applications; or

(3) Such other time as may be provided by the Commission.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47202, Dec. 3, 1984]

§ 110.83 Answers and replies.

(a) Unless otherwise specified by the Commission, an answer to a hearing request or intervention petition may be filed within 30 days after the request or petition has been served.

(b) Unless otherwise specified by the Commission, a reply to an answer may be filed within 10 days after all timely answers have been filed.

(c) Answers and replies should address the factors in § 110.84.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47203, Dec. 3, 1984]

§ 110.84 Commission action on a hearing request or intervention petition.

(a) In an export licensing proceeding, or in an import licensing proceeding in which a hearing request or intervention petition does not assert or establish an interest which may be affected, the Commission will consider:

(1) Whether a hearing would be in the public interest; and

(2) Whether a hearing would assist the Commission in making the statutory determinations required by the Atomic Energy Act.

(b) If a hearing request or intervention petition asserts an interest which may be affected, the Commission will consider:

(1) The nature of the alleged interest;

(2) How that interest relates to issuance or denial; and

(3) The possible effect of any order on that interest, including whether the relief requested is within the Commission's authority, and, if so, whether granting relief would redress the alleged injury.

(c) Untimely hearing requests or intervention petitions may be denied unless good cause for failure to file on time is established. In reviewing untimely requests or petitions, the Commission will also consider:

(1) The availability of other means by which the requestor's or petitioner's interest, if any, will be protected or represented by other participants in a hearing; and

(2) The extent to which the issues will be broadened or action on the application delayed.

(d) Before granting or denying a hearing request or intervention petition, the Commission will review the Executive Branch's views on the license application and may request further information from the petitioner, requester, the Commission staff, the Executive Branch or others.

(e) The Commission will deny a request or petition that pertains solely to matters outside its jurisdiction.

(f) If an issue has been adequately explored in a previous licensing hearing conducted pursuant to this part, a request for a new hearing in connection with that issue will be denied unless:

(1) A hearing request or intervention petition establishes that an interest may be affected; or

(2) The Commission determines that changed circumstances or new information warrant a new hearing.

(g) After consideration of the factors covered by paragraphs (a) through (f), the Commission will issue a notice or order granting or denying a hearing request or intervention petition. Upon the affirmative vote of two Commissioners a hearing will be ordered. A notice granting a hearing will be published in the FEDERAL REGISTER and will specify whether the hearing will be oral or consist of written comments. A denial notice will set forth the reasons for denial.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47203, Dec. 3, 1984]

§ 110.85 Notice of hearing consisting of written comments.

(a) A notice of hearing consisting of written comments will:

(1) State the issues to be considered;

(2) Provide the names and addresses of participants;

(3) Specify the time limits for participants and others to submit written

views and respond to any written comments; and

(4) State any other instructions the Commission deems appropriate.

(b) The Secretary will give notice of any hearing under this section and § 110.85 to any person who so requests.

§ 110.86 Notice of oral hearing.

(a) A notice of oral hearing will:

(1) State the time, place and issues to be considered;

(2) Provide names and addresses of participants;

(3) Designate the presiding officer;

(4) Specify the time limit for participants and others to indicate whether they wish to present views; and

(5) State any other instructions the Commission deems appropriate.

(b) If the Commission is not the presiding officer, the notice of oral hearing will also state:

(1) When the jurisdiction of the presiding officer commences and terminates;

(2) The powers of the presiding officer; and

(3) Instructions to the presiding officer to certify promptly the completed hearing record to the Commission without preliminary decision or findings, unless the Commission directs otherwise.

§ 110.87 Conditions in a notice or order.

(a) A notice or order granting a hearing or permitting intervention may restrict irrelevant or duplicative testimony, or require common interests to be represented by a single spokesman.

(b) If a participant's interests do not extend to all the issues in the hearing, the notice or order may limit his participation accordingly.

(c) Unless authorized by the Commission, the granting of participation will not broaden the hearing issues.

§ 110.88 Authority of the Secretary.

The Secretary is authorized to prescribe time schedules and other procedural arrangements, when not covered by this part, and rule on related procedural requests.

§ 110.89 Filing and service.

(a) Hearing requests, intervention petitions, answers, replies and accompanying documents must be filed with the Commission by delivery or by mail or telegram to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, ATTN: Chief, Docketing and Service Branch. Filing by mail or telegram is complete upon deposit in the mail or with a telegraph company.

(b) All filing and Commission notices and orders must be served upon the applicant; the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555; the Executive Secretary, Department of State, Washington, DC 20520; and participants if any. Hearing requests, intervention petitions, and answers and replies must be served by the person filing those pleadings.

(c) Service is completed by:

(1) Delivering the paper to the person; or leaving it in his office with someone in charge; or, if there is no one in charge, leaving it in a conspicuous place in the office; or, if he has no office or it is closed, leaving it at his usual place of residence with some occupant of suitable age and discretion;

(2) Depositing it with a telegraph company, properly addressed and with charges prepaid;

(3) Depositing it in the United States mail, properly stamped and addressed; or

(4) Any other manner authorized by law, when service cannot be made as provided in paragraphs (c)(1) through (3) of this section.

(d) Proof of service, stating the name and address of the person served and the manner and date of service, shall be shown, and may be made by:

(1) Written acknowledgment of the person served or an authorized representative; or

(2) The certificate or affidavit of the person making the service.

(e) The Commission may make special provisions for service when circumstances warrant.

[43 FR 21641, May 19, 1978, as amended at 49 FR 47203, Dec. 3, 1984; 51 FR 35999, Oct. 8, 1986]

§ 110.90 Computation of time.

(a) In computing time, the first day of a designated time period is not included and the last day is included. If the last day is a Saturday, Sunday or legal holiday at the place where the required action is to be accomplished, the time period will end on the next day which is not a Saturday, Sunday or legal holiday.

(b) In time periods of 7 days or less, Saturdays, Sundays and holidays are not counted.

(c) Whenever an action is required within a prescribed period by a paper served pursuant to § 110.89, 3 days shall be added to the prescribed period if service is by mail.

(d) An interpretation of this section is contained in § 8.3 of this chapter.

§ 110.91 Commission consultations.

The Commission may consult at any time on a license application with the staff, the Executive Branch or other persons.

[49 FR 47203, Dec. 3, 1984]

Subpart J—Hearings

§ 110.100 Public hearings.

Hearings under this part will be public unless the Commission directs otherwise.

§ 110.101 Filing and service.

Filing and service of hearing documents shall be pursuant to § 110.89.

§ 110.102 Hearing docket.

For each hearing, the Secretary will maintain a docket which will include the hearing transcript, exhibits and all papers filed or issued pursuant to the hearing.

§ 110.103 Acceptance of hearing documents.

(a) Each document filed or issued must be clearly legible and bear the docket number, license application number and hearing title.

(b) Each document shall be filed in one original and signed by the participant or his authorized representative, with his address and date of signature indicated. The signature is a representation that the document is submitted with full authority, the signat
knows its contents and that, to th
best of his knowledge, the statemen
made in it are true.

(c) A document not meeting the r
quirements of this section may be r
turned with an explanation for nona
ceptance and, if so, will not be docke
ed.

[43 FR 21641, May 19, 1978, as amended
49 FR 47203, Dec. 3, 1984]

§ 110.104 Presiding officer.

(a) The full Commission will ord
narily be the presiding officer at
hearing under this part. However, th
Commission may provide in a hearin
notice that one or more Commissio
ers, or any other person as provided b
law, will preside.

(b) A participant may submit a wri
ten motion for the disqualification
any person presiding. The motio
shall be supported by affidavit settin
forth the alleged grounds for disqual
fication. If the presiding officer do
not grant the motion or the perso
does not disqualify himself, the Com
mission will decide the matter.

(c) If any presiding officer designa
ed by the Commission deems himsel
disqualified, he shall withdraw b
notice on the record after notifyin
the Commission.

(d) If a presiding officer becomes u
available, the Commission will desi
nate a replacement.

(e) Any motion concerning the desi
nation of a replacement presiding off
cer shall be made within 5 days afte
the designation.

(f) Unless otherwise ordered by th
Commission, the jurisdiction of a pr
siding officer other than the Commi
sion commences as designated in th
hearing notice and terminates upo
certification of the hearing record t
the Commission, or when the presid
ing officer is disqualified.

§ 110.105 Responsibility and power of th presiding officer in an oral hearing.

(a) The presiding officer in any ora
hearing shall conduct a fair hearing
develop a record that will contribut
to informed decisionmaking, and
within the framework of the Commis
sion's orders, have the power neces

sary to achieve these ends, including the power to:

(1) Take action to avoid unnecessary delay and maintain order;

(2) Dispose of procedural requests;

(3) Question participants and witnesses, and entertain suggestions as to questions which may be asked of participants and witnesses;

(4) Order consolidation of participants;

(5) Establish the order of presentation;

(6) Hold conferences before or during the hearing;

(7) Establish reasonable time limits;

(8) Limit the number of witnesses; and

(9) Strike or reject duplicative or irrelevant presentations.

(b) Where the Commission itself does not preside:

(1) The presiding officer may certify questions or refer rulings to the Commission for decision;

(2) Any hearing order may be modified by the Commission; and

(3) The presiding officer will certify the completed hearing record to the Commission, which may then issue its opinion on the hearing or provide that additional testimony be presented.

§ 110.106 Participation in a hearing.

(a) Unless otherwise limited by this part or by the Commission, participants in a hearing may submit:

(1) Initial and concluding written statements of position on the issues;

(2) Written questions to the presiding officer; and

(3) Written responses and rebuttal testimony to the statements of other participants.

(b) Participants in an oral hearing may also submit oral statements, questions, responses and rebuttal testimony.

(c) A participant in an import licensing hearing establishing that his interest may be affected, may be accorded additional procedural rights under subpart G of part 2 with respect to resolution of domestic factual issues regarding the public health, safety and environment of the United States, and the protection of the United States public against domestic theft, diversion or sabotage, to the extent that such issues are separable from the nondomestic issues associated with the license application.

§ 110.107 Presentation of testimony in an oral hearing.

(a) All direct testimony in an oral hearing shall be filed no later than 7 days before the hearing or as otherwise ordered or allowed.

(b) Written testimony will be received into evidence in exhibit form.

(c) Unless proscribed under § 110.87, members of groups which are designated as participants may testify in their individual capacities.

(d) Participants may present their own witnesses.

(e) Testimony by the Commission and the Executive Branch will be presented only by persons officially designated for that purpose.

(f) Participants and witnesses will be questioned orally or in writing and only by the presiding officer. Questions may be addressed to individuals or to panels of participants or witnesses.

(g) The presiding officer may accept written testimony from a person unable to appear at the hearing, and may request him to respond to questions.

(h) No subpoenas will be granted at the request of participants for attendance and testimony of participants or witnesses or the production of evidence.

§ 110.108 Appearance in an oral hearing.

(a) A participant may appear in a hearing on his own behalf or be represented by an authorized representative.

(b) A person appearing shall file a written notice stating his name, address and telephone number, and if an authorized representative, the basis of his eligibility and the name and address of the participant on whose behalf he appears.

(c) A person may be excluded from a hearing for disorderly, dilatory or contemptuous conduct, provided he is informed of the grounds and given an opportunity to respond.

§ 110.109 Motions and requests.

(a) Motions and requests shall be addressed to the presiding officer, and, if written, also filed with the Secretary and served on other participants.

(b) Other participants may respond to the motion or request. Responses to written motions or requests shall be filed within 5 days after service.

(c) When the Commission does not preside, in response to a motion or request, the presiding officer may refer a ruling or certify a question to the Commission for decision and notify the participants.

(d) Unless otherwise ordered by the Commission, a motion or request, or the certification of a question or referral of a ruling, shall not stay or extend any aspect of the hearing.

§ 110.110 Default.

When a participant fails to act within a specified time, the presiding officer may consider him in default, issue an appropriate ruling and proceed without further notice to the defaulting participant.

§ 110.111 Waiver of a rule or regulation.

(a) A participant may petition that a Commission rule or regulation be waived with respect to the license application under consideration.

(b) The sole ground for a waiver shall be that, because of special circumstances concerning the subject of the hearing, application of a rule or regulation would not serve the purposes for which it was adopted.

(c) Waiver petition shall specify why application of the rule or regulation would not serve the purposes for which it was adopted.

(d) Other participants may, within 10 days, file a response to a waiver petition.

(e) When the Commission does not preside, the presiding officer will certify the waiver petition to the Commission, which, in response, will grant or deny the waiver or direct any further proceedings.

(f) Regardless of whether a waiver is granted or denied, a separate petition for rulemaking may be filed pursuant to subpart L of this part.

§ 110.112 Reporter and transcript for an oral hearing.

(a) A reporter designated by the Commission will record an oral hearing and prepare the official hearing transcript.

(b) Except for any classified portions, transcripts will be placed in the Public Document Room, and copies may be purchased from the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(c) Corrections of the official transcript may be made only as specified by the Secretary.

§ 110.113 Commission action.

(a) Upon completion of a hearing, the Commission will issue a written opinion including its decision on the license application, the reasons for the decision and any dissenting views.

(b) While the Commission will consider fully the hearing record, the licensing decision will be based on all relevant information, including information which might go beyond that in the hearing record.

(c) If the Commission considers information not in the hearing record in reaching its licensing decision, the hearing participants will be informed and, if not classified or otherwise privileged, the information will be placed in the Public Document Room and furnished to the participants.

(d) The Commission may issue a license before completion of a hearing if it finds that:

(1) Prompt issuance is required in the public interest, particularly the common defense and security; and

(2) A participant establishing that his interest may be affected has been provided a fair opportunity to present his views.

(e) The Commission may:

(1) Defer any hearing;

(2) Consolidate applications for hearing;

(3) Narrow or broaden the hearing issues; and

(4) Take other action, as appropriate.

Subpart K—Special Procedures for Classified Information in Hearings

§ 110.120 Purpose and scope.

(a) This subpart contains special procedures concerning access to, and introduction of, classified information into hearings under this part.

(b) These procedures do not in any way apply to classified information exchanged between the Executive Branch and the Commission not introduced into a hearing. Such information will be declassified to the maximum extent feasible. The public statements of the Commission staff and Executive Branch will, to the extent consistent with classification requirements, reflect consideration of any such classified information.

§ 110.121 Security clearances and access to classified information.

(a) No person without a security clearance will have access to classified information.

(b) Only the Commission will act upon an application for access to classified information.

(c) To the extent practicable, applications for access to classified information shall describe the information to which access is desired and its level of classification (confidential, secret or other); the reasons for requesting access; the names of individuals for whom access is requested; and the reasons why access is requested for those individuals.

(d) The Commission will consider requests for appropriate security clearances in reasonable numbers; conduct its review and grant or deny these in accordance with part 10 of this chapter; and make a reasonable charge to cover costs.

(e) The Commission will not grant security clearances for access to classified information, unless it determines that the available unclassified information is inadequate on the subject matter involved.

(f) When an application demonstrates that access to classified information not introduced into a hearing may be needed to prepare a participant's position on the hearing issues, the Commission may issue an order granting access to this information to the participant, his authorized representative or other persons. Access will be subject to the conditions in paragraphs (e) and (j) and will not be granted unless required security clearances have been obtained.

(g) Once classified information has been introduced into a hearing, the Commission will grant access to a participant, his authorized representative or such other persons as the Commission determines may be needed by the participant to prepare his position on the hearing issues. Access will be subject to the conditions in paragraphs (e) and (j) of this section and will not be granted unless required security clearances have been obtained.

(h) For good cause, the Commission may postpone action upon an application for access to classified information.

(i) The Commission will grant access to classified information only up to the level for which the persons described in paragraphs (f) and (g) of this section are cleared and only upon an adequate commitment by them not to disclose such information subject to penalties as provided by law.

(j) The Commission will not in any circumstances grant access to classified information:

(1) Unless it determines that the grant is not inimical to the common defense and security; and

(2) Which it has received from another Government agency, without the prior consent of the originating agency.

(k) Upon completion of a hearing, the Commission will terminate all security clearances granted pursuant to the hearing and may require the disposal of classified information to which access has been granted or the observance of other procedures to safeguard this information.

§ 110.122 Classification assistance.

On the request of any hearing participant or the presiding officer (if other than the Commission), the Commission will designate a representative to advise and assist the presiding officer or the participants with respect to security classification of information and the protective requirements to be observed.

§ 110.123 Notice of intent to introduce classified information.

(a) A participant shall seek the required security clearances, where necessary, and file with the Secretary a notice of intent to introduce classified information into a hearing at the earliest possible time after the notice of hearing.

(b) If a participant has not filed a notice of intent in accordance with this section, he may introduce classified information only if he gives to the other participants and the Commission prompt written notice of intent and only as permitted by the Commission when it determines that the public interest will not be prejudiced.

(c) The notice of intent shall be unclassified and, to the extent consistent with classification requirements, state:

(1) The subject matter of the classified information, which it is anticipated will be involved;

(2) The highest level of classification of the information (confidential, secret or other);

(3) When it is anticipated that the information would be introduced; and

(4) The relevance and materiality of the information to the hearing issues.

§ 110.124 Rearrangement or suspension of a hearing.

When a participant gives notice of intent to introduce classified information and other participants do not have the required security clearances, subject to § 110.121, the Commission may:

(a) Suspend or rearrange the normal order of the hearing to give other participants an opportunity to obtain the required security clearances with minimum delay in the conduct of the hearing; or

(b) Take such other action as it determines to be in the public interest.

§ 110.125 Unclassified statements required.

(a) It is the obligation of hearing participants to introduce information in unclassified form wherever possible, and to declassify, to the maximum extent feasible, any classified information introduced into the hearing. This obligation rests on each participant whether or not any other participant has the required security clearances.

(b) When classified information is offered for introduction into a hearing:

(1) The participant offering it shall, to the extent consistent with classification requirements, submit to the presiding officer and other participants an unclassified statement describing the substance of the classified information as accurately and completely as possible;

(2) In accordance with procedures agreed upon by the participants or prescribed by the presiding officer, and after notice to all participants and opportunity to be heard on the notice, the presiding officer will determine whether an unclassified statement may be substituted for the classified information in the hearing record without prejudice to the interest of any participant or the public;

(3) If the Commission determines that the unclassified statement (together with such unclassified modifications as it finds are necessary or appropriate to protect the interest of other participants and the public) adequately sets forth information in the classified matter which is relevant and material to the issues in the hearing, it will direct that the classified matter be excluded from the record of the hearing; and

(4) The Commission may postpone any of the procedures in this section until all other evidence has been received. However, a participant shall not postpone service of any unclassified statement required in this section.

§ 110.126 Protection of classified information.

Nothing in this subpart shall relieve any person from safeguarding classified information as required by law and rules, regulations or orders of any Government agency.

Subpart L—Rulemaking

§ 110.130 Initiation of rulemaking.

The Commission may initiate action to amend the regulations in this part on its own initiative or in response to a petition.

§ 110.131 Petition for rulemaking.

(a) A petition for rulemaking should be addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Chief, Docketing and Service Branch.

(b) The petition shall state the basis for the requested amendment.

(c) The petition may request the Commission to suspend all or part of any licensing proceeding under this part pending disposition of the petition.

(d) The Secretary will assign a docket number to the petition, place a copy in the Public Document Room and notice its receipt in the FEDERAL REGISTER.

(e) Publication may be limited by order of the Commission to the extent required by section 181 of the Atomic Energy Act.

§ 110.132 Commission action on a petition.

(a) The Commission may grant or deny the petition in whole or in part.

(b) If the petition is granted, a notice of proposed rulemaking or a notice of rulemaking will be published in the FEDERAL REGISTER.

(c) If the petition is denied, the petitioner will be informed of the grounds.

(d) Commission action on a petition will normally follow, whenever appropriate, receipt and evaluation of Executive Branch views.

(e) The Commission, in exercising the discretion authorized by section 4(a)(1) of the Administrative Procedure Act (5 U.S.C. 553(a)(1)), will decide what, if any, public rulemaking procedures will be followed.

§ 110.133 Notice of proposed rulemaking.

(a) When the Commission proposes to amend the regulations in this part, it will normally publish a notice of proposed rulemaking in the FEDERAL REGISTER.

(b) A notice of proposed rulemaking will include:

(1) The authority for the proposed rule;

(2) The substance and purpose of the proposed rule;

(3) Directions for public participation;

(4) The time and place of any public hearing; and

(5) If a hearing is to be held by other than the Commission, designating of a presiding officer and instructions for the conduct of the hearing.

(c) A notice of proposed rulemaking will be published not less than 15 days before any hearing, unless the Commission for good cause provides otherwise in the notice.

§ 110.134 Public participation.

(a) The Commission may hold an oral hearing on a proposed rule or permit any person to participate in a rulemaking proceeding through the submission of written comments.

(b) When it is in the public interest and is authorized by law, public rulemaking procedures may be omitted and a notice of rulemaking published pursuant to § 110.135.

§ 110.135 Notice of rulemaking.

(a) Upon approval of an amendment, the Commission will publish in the FEDERAL REGISTER a notice of rulemaking which includes a statement of its basis and purpose, effective date and, where appropriate, any significant variations from the amendment as proposed in any notice of proposed rulemaking.

(b) The effective date of an amendment will normally be no earlier than 30 days after publication of the notice of rulemaking, unless the Commission for good cause provides otherwise in the notice.

APPENDIX A TO PART 110—ILLUSTRATIVE LIST OF NUCLEAR REACTOR EQUIPMENT UNDER NRC EXPORT LICENSING AUTHORITY

NOTE—A nuclear reactor basically includes the items within or attached directly to the reactor vessel, the equipment which controls the level of power in the core, and the components which normally contain or come in direct contact with or control the primary coolant of the reactor core.

(1) Reactor pressure vessels, i.e., metal vessels, as complete units or major shop-fabricated parts, specially designed or prepared to contain the core of a nuclear reactor and

capable of withstanding the operating pressure of the primary coolant.

(2) On-line (e.g., CANDU) reactor fuel charging and discharging machines, i.e., manipulative equipment specially designed for inserting or removing fuel in an operating nuclear reactor.

(3) Reactor control rods, i.e., rods specially designed or prepared for the control of the reaction rate in a nuclear reactor.

(4) Reactor primary coolant pumps, i.e., pumps specially designed or prepared for circulating the primary coolant in a nuclear reactor.

(5) Reactor pressure tubes, i.e., tubes specially designed or prepared to contain fuel elements and the primary coolant in a nuclear reactor at an operating pressure in excess of 50 atmospheres.

(6) Zirconium tubes, i.e., zirconium metal and alloys in the form of tubes or assemblies of tubes specially designed or prepared for use in a nuclear reactor.

(7) Reactor internals, e.g., core support structures, control and rod guide tubes, thermal shields, baffles, core grid plates and diffuser plates specially designed or prepared for use in a nuclear reactor.

(8) Reactor control rod drive mechanisms, including detection and measuring equipment to determine flux levels.

(9) Any other components specially designed or prepared for use in a nuclear reactor or in any of the components described in this appendix.

[55 FR 30450, July 26, 1990, as amended at 55 FR 34519, Aug. 23, 1990]

APPENDIX B TO PART 110—LIST OF GAS CENTRIFUGE ENRICHMENT PLANT COMPONENTS UNDER NRC'S EXPORT LICENSING AUTHORITY

1. *Assemblies and components especially designed or prepared for use in gas centrifuges.*

NOTE: The gas centrifuge normally consists of a thin-walled cylinder(s) of between 75mm (3 ins.) and 400 mm (16 ins.) diameter contained in a vacuum environment and spun at high peripheral speed (of the order of 300 m/per second and more) with the central axis vertical. In order to achieve high speed, the materials of construction for the rotating rotor assembly, and hence its individual components, have to be manufactured to very close tolerances in order to minimize the unbalance. In contrast to other centrifuges, the gas centrifuge for uranium enrichment is characterized by having within the rotor chamber a rotating disc-shaped baffle(s) and a stationary tube arrangement for feeding and extracting UF_6 gas and featuring at least 3 separate channels of which 2 are connected to scoops extending from the rotor axis towards the periphery of the rotor chamber. Also contained within the vacuum environment are a number of critical items which do not rotate and which, although they are especially designed, are not difficult to fabricate nor are they fabricated out of unique materials. A centrifuge facility, however, requires a large number of these components so that quantities can provide an important indication of end use.

1.1 *Rotating Components.*

(a) Complete Rotor Assemblies: Thin-walled cylinders, or a number of interconnected thin-walled cylinders, manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

If interconnected, the cylinders are joined together by flexible bellows or rings as described in § 1.1(c). The rotor is fitted with an internal baffle(s) and end caps, as described in § 1.1 (d) and (e), if in final form. However, the complete assembly may be delivered only partly assembled.

(b) Rotor Tubes: Especially designed or prepared thin-walled cylinders with thickness of 12mm (.50 in.) or less, a diameter of between 75mm (3 ins.) and 400mm (16 ins.), and manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

(c) Rings or Bellows: Components especially designed or prepared to give localised support to the rotor tube or to join together a number of rotor tubes. The bellows in a short cylinder of wall thickness 3mm (.125 in.) or less, a diameter of between 75mm (3 ins.) and 400mm (16 ins.), having a convolute, and manufactured from one of the high strength-to-density ratio materials described in the footnote to this section.

(d) Baffles: Disc shaped components of between 75mm (3 ins.) and 400mm (16 ins.) diameter especially designed or prepared to be mounted inside the centrifuge rotor tube, in order to isolate the take-off chamber from the main separation chamber and, in some cases, to assist the UF_6 gas circulation within the main separation chamber of the rotor tube, and manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

(e) Top Caps/Bottom Caps: Disc shaped components of between 75mm (3 ins.) and 400mm (16 ins.) diameter especially designed or prepared to fit to the ends of the rotor tube, and so contain the UF_6 within the rotor tube, and in some cases to support, retain or contain as an integrated part, an element of the upper bearing (top cap) or to carry the rotating elements of the motor and lower bearing (bottom cap), and manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

FOOTNOTE

The materials used for centrifuge rotating components are:

(a) Maraging steel capable of an ultimate tensile strength of 2.050×10^9 N/m² (300,000 lb/in.²) or more.

(b) Aluminium alloys capable of an ultimate tensile strength of 0.460×10^9 N/m² (67,000 lb/in.²) or more.

(c) Filamentary materials suitable for use in composite structures and having a specific modulus of 12.3×10^6 or greater and a specific ultimate tensile strength of 0.3×10^6 or greater ("Specific Modulus" is the Young's Modulus in N/m² divided by the density in Kg/m³. "Specific Ultimate Tensile Strength" is the ultimate tensile strength in N/m² divided by the density in Kg/M³).

1.2 *Static Components.*

(a) Magnetic Suspension Bearings: Especially designed or prepared bearing assemblies consisting of an annular magnet suspended within a housing containing a damping medium. The housing will be manufactured from a UF_6 resistant material (see footnote to section 2). The magnet couples with a pole piece or a second magnet fitted to the top cap described in Section 1.1(e). The magnet may be ring-shaped with a relation between outer and inner diameter smaller or equal to 1.6.1. The magnet may be in a form having an initial permeability of 0.15 Henry/meter (120,000 in CGS units) or more, or an energy product of greater than 80,000 joules/m³ (10×10^6 gauss-oersteds.) In addition to the usual material properties, it is a prerequisite that the deviation of the magnetic axes from the geometrical axes is limited to very small tolerances (lower than 0.1mm) or that homogeneity of the material of the magnet is specially called for.

(b) Bearings/Dampers: Especially designed or prepared bearings comprising a pivot/cup assembly mounted on a damper. The pivot is normally a hardened steel shaft polished into a hemisphere at one end with a means of attachment to the bottom cap described in Section 1.1(e) at the other. The shaft may, however, have a hydrodynamic bearing attached. The cup is pellet-shaped with hemispherical indentation in one surface. These components are often supplied separately to the damper.

(c) Molecular Pumps: Especially designed or prepared cylinders having internally machined or extruded helical grooves and internally machined bores. Typical dimensions are as follows: 7mm (0.3 ins.) to 400mm (16 ins.) internal diameter, 10mm (0.4 ins.) or more wall thickness, 1 to 1 length to diameter ratio. The grooves are typically rectangular in cross-section and 2mm (0.08 in.) or more in depth.

(d) Motor Stators: Especially designed or prepared ring shaped stators for high speed multi-phase AC hysteresis (or reluctance) motors for synchronous operation within a vacuum in the frequency range of 600-2000 Hz and a power range of 50-100 volts amps. The stators consist of multi-phase windings on a laminated low loss iron core comprised of thin layers typically 2.0mm (0.08 in.) thick or less.

2. *Especially designed or prepared auxiliary systems, equipment and components for gas centrifuge enrichment plants.*

NOTE: The auxiliary systems, equipment and components for a gas centrifuge enrichment plant are the systems of the plant needed to feed UF_6 to the centrifuges to link the individual centrifuges to each other to form cascades (or stages) to allow for progressively higher enrichments and to extract the product and tails of UF_6 from the centrifuges, together with the equipment required to drive the centrifuges or to control the plant.

Normally UF_6 is evaporated from the solid using heated autoclaves and is distributed in gaseous form to the centrifuges by way of cascade header pipework. The "product" and "tails" of UF_6 gaseous streams flowing from the centrifuges are also passed by way of cascade header pipework to cold traps (operating at about −70 °C) where they are condensed prior to onward transfer into suitable containers for transportation or storage. Because an enrichment plant consists of many thousands of centrifuges arranged in cascades, there are many kilometers of cascade header pipework incorporating thousands of welds with a substantial amount of repetition of layout. The equipment, component and piping systems are fabricated to very high vacuum and cleanliness standards.

The following items either come into direct contact with UF_6 process gas or directly control the centrifuge and the passage of the gas from centrifuge to centrifuge and cascade to cascade.

(a) Feed Systems/Product and Tails Withdrawal Systems:

Especially designed or prepared process systems including:

1. Feed autoclaves (or stations), used for passing UF_6 to the centrifuge cascades at up to 100 Kg/m² (15 lb/in.²)

2. Desublimers (or cold traps) used to remove UF_6 from the cascades at up to 3 Kg/m² (0.5 lb/in²) pressure. The desublimers are capable of being chilled to −70 °C and heated to 70 °C.

3. Product and tails stations used for trapping UF_6 into containers.

This plant equipment and pipework are wholly made of or lined with UF_6 resistant materials (see Footnote to this Section) and are fabricated to very high vacuum and cleanliness standards.

(b) Machine Header Piping Systems:

Especially designed or prepared piping systems and header systems for handling UF_6 within the centrifuge cascades.

This piping network is normally of the "triple" header system with each centrifuge connected to each of the headers. There is thus a substantial amount of repetition in its form. It is wholly made of UF_6 resistant materials (see Note to this Section) and is fabricated to very high vacuum and cleanliness standards.

(c) UF_6 Mass Spectrometers/Ion Sources: Especially designed or prepared magnetic or quadrapole mass spectrometers capable of taking "on-line" sample of feed, product or tails from UF_6 gas streams and having all of the following characteristics:

1. Unit resolution for mass greater than 320.
2. Ion sources constructed of or lined with nichrome, monel or nickel-plate.
3. Electron bombardment ionization sources.
4. Having a collector system suitable for isotope analysis.

(d) Frequency Changers: Frequency changers (also known as converters or invertors) especially designed or prepared to supply motor stators as defined under Section 1.2(d), or parts, components and subassemblies of such frequency changers having all of the following characteristics:

1. A multiphase output of 600 Hz to 2000Hz.
2. High stability (with frequency control better than 0.1%).
3. Low harmonic distortion (less than 2%).
4. An efficiency of greater than 80%.

FOOTNOTE

Materials resistant to corrosion by UF_6 include stainless steel, aluminum, aluminum alloys, nickel or alloys containing 60% or more nickel.

[49 FR 47203, Dec. 3, 1984. Redesignated at 55 FR 30450, July 26, 1990]

APPENDIX C TO PART 110—ILLUSTRATIVE LIST OF GASEOUS DIFFUSION ENRICHMENT PLANT ASSEMBLIES AND COMPONENTS UNDER NRC EXPORT LICENSING AUTHORITY

NOTE—In the gaseous diffusion method of uranium isotope separation, the main technological assembly is a special porous gaseous diffusion barrier, heat exchanger for cooling the gas (which is heated by the process of compression), seal valves and control valves, and pipelines. Inasmuch as gaseous diffusion technology uses uranium hexafluoride (UF_6), all equipment, pipeline and instrumentation surfaces (that come in contact with the gas) must be made of materials that remain stable in contact with UF_6. A gaseous diffusion facility requires a number of these assemblies, so that quantities can provide an important indication of end use.

The auxiliary systems, equipment and components for gaseous diffusion enrichment plants are the systems of plant needed to feed UF_6 to the gaseous diffusion assembly to link the individual assemblies to each other to form cascades (or stages) to allow for progressively higher enrichments and to extract the "product" and "tails" UF_6 from the diffusion cascades. Because of the high inertial properties of diffusion cascades, any interruption in their operation, and especially their shut-down, leads to serious consequences. Therefore, a strict and constant maintenance of vacuum in all technological systems, automatic protection for accidents, and precise automated regulation of the gas flow is of importance in a gaseous diffusion plant. All this leads to a need to equip the plant with a large number of special measuring, regulating, and controlling systems.

Normally UF_6 is evaporated from cylinders placed within autoclaves and is distributed in gaseous form to the entry point by way of cascade header pipework. The "product" and "tails" UF_6 gaseous streams flowing from exit points are passed by way of cascade header pipework to either cold traps or to compression stations where the UF_6 gas is liquified prior to onward transfer into suitable containers for transportation or storage. Because a gaseous diffusion enrichment plant consists of a large number of gaseous diffusion assemblies arranged in cascades, there are many kilometers of cascade header pipework, incorporating thousands of welds with substantial amounts of repetition of layout. The equipment, components and piping systems are fabricated to very high vacuum and cleanliness standards.

The items listed below either come into direct contact with the UF_6 process gas or directly control the flow within the cascade. All surfaces which come into contact with the process gas are wholly made of, or lined with, UF_6-resistant materials. For the purposes of this appendix the materials resistant to corrosion by UF_6 include stainless steel, aluminum, aluminum alloys, aluminum oxide, nickel or alloys containing 60 percent or more nickel, and UF_6-resistant fully fluorinated hydrocarbon polymers.

1. Assemblies and components especially designed or prepared for use in gaseous diffusion enrichment.

1.1 Gaseous Diffusion Barriers

Especially designed or prepared thin porous filters, with a pore size of 100-1000 Å (angstroms), a thickness of 5 mm or less, and for tubular forms, a diameter of 25 mm or less, made of metallic, polymer or ceramic materials resistant to corrosion by UF_6

and especially prepared compounds or powders for the manufacture of such filters. Such compounds and powders include nickel or alloys containing 60 percent or more nickel, aluminum oxide, or UF_6-resistant fully fluorinated hydrocarbon polymers having a purity of 99.9 percent or more, a particle size less than 10 microns, and a high degree of particle size uniformity, which are especially prepared for the manufacture of gaseous diffusion barriers.

1.2 Diffuser Housings

Especially designed or prepared hermetically sealed cylindrical vessels greater than 30 cm in diameter and greater than 90 cm in length, or rectangular vessels of comparable dimensions, which have an inlet connection and two outlet connections all of which are greater than 5 cm in diameter, for containing the gaseous diffusion barrier, made of or lined with UF_6-resistant materials and designed for horizontal or vertical installation.

1.3 Compressors and Gas Blowers

Especially designed or prepared axial, centrifugal, or positive displacement compressors, or gas blowers with a suction volume capacity of 1 m^3/min or more of UF_6, and with a discharge pressure of up to several hundred kN/m^2 (100 PSI), designed for long-term operation in the UF_6 environment with or without an electrical motor of appropriate power, as well as separate assemblies of such compressors and gas blowers. These compressors and gas blowers have a pressure ratio between 2/1 and 6/1 and are made of, or lined with, materials resistant to UF_6.

1.4 Rotary Shaft Seals

Especially designed or prepared vacuum seals, with seal feed and seal exhaust connections, for sealing the shaft connecting the compressor or the gas blower rotor with the driver motor so as to ensure a reliable seal against in-leaking of air into the inner chamber of the compressor or gas blower which is filled with UF_6. Such seals are normally designed for a buffer gas in-leakage rate of less than 1000 cm^3/min.

1.5 Heat Exchangers for Cooling UF_6

Especially designed or prepared heat exchangers made of or lined with UF_6 resistant materials (except stainless steel) or with copper or any combination of those metals, and intended for a leakage pressure change rate of less than 10 N/m^2 (0.0015 PSI) per hour under a pressure difference of 100 kN/m^2 (15 PSI).

2. Auxiliary systems, equipment and components especially designed or prepared for use in gaseous diffusion enrichment.

2.1 Feed Systems/Product and Tails Withdrawal Systems

Especially designed or prepared process systems, capable of operating at pressures of 300 kN/m^2 (45 PSI) or less, including:

1. Feed autoclaves (or systems), used for passing UF_6 to the gaseous diffusion cascades;

2. Desublimers (or cold traps) used to remove UF_6 from diffusion cascades;

3. Liquefaction stations where UF_6 gas from the cascade is compressed and cooled to form liquid UF_6;

4. "Product" or "tails" stations used for transferring UF_6 into containers.

2.2 Header Piping Systems

Especially designed or prepared piping systems and header systems for handling UF_6 within the gaseous diffusion cascades. This piping network is normally of the "double" header system with each cell connected to each of the headers.

2.3 Vacuum Systems

(a) Especially designed or prepared large vacuum manifolds, vacuum headers and vacuum pumps having a suction capacity of 5 m^3/min or more.

(b) Vacuum pumps especially designed for service in UF_6-bearing atmospheres made of, or lined with, aluminum, nickel, or alloys bearing more than 60 percent nickel. These pumps may be either rotary or positive displacement, may have fluorocarbon seals, and may have special working fluids present.

2.4 Special Shut-Off and Control Valves

Especially designed or prepared manual or automated shut-off and control bellows valves made of UF_6 resistant materials with a diameter of 4 cm to 1.5 m for installation in main and auxiliary systems of gaseous diffusion enrichment plants.

2.5 UF_6 Mass Spectrometers/Ion Sources

Especially designed or prepared magnetic or quadruple mass spectrometers capable of taking "on-line" samples of feed, product or tails, from UF_6 gas streams and having all of the following characteristics:

(a) unit resolution for mass greater than 320;

(b) ion sources constructed of or lined with nichrome or monel or nickel plated;

(c) electron bombardment ionization sources;

(d) having a collector system suitable for isotopic analysis.

[55 FR 30451, July 26, 1990]

APPENDIX D TO PART 110—ILLUSTRATIVE LIST OF REPROCESSING PLANT COMPONENTS UNDER NRC EXPORT LICENSING AUTHORITY

NOTE—Reprocessing irradiated nuclear fuel separates plutonium and uranium from intensely radioactive fission products and other transuranic elements. Different technical processes can accomplish this separation. However, over the years Purex has become the most commonly used and accepted process. Purex involves the dissolution of irradiated nuclear fuel in nitric acid, followed by separation of the uranium, plutonium, and fission products by solvent extraction using a mixture of tributyl phosphate in an organic diluent.

Purex facilities have process functions similar to each other, including: irradiated fuel element chopping, fuel dissolution, solvent extraction, and process liquor storage. There may also be equipment for thermal denitration of uranium nitrate, conversion of plutonium nitrate to oxide metal, and treatment of fission product waste liquor to a form suitable for long term storage or disposal. However, the specific type and configuration of the equipment performing these functions may differ between Purex facilities for several reasons, including the type and quantity of irradiated nuclear fuel to be reprocessed and the intended disposition of the recovered materials, and the safety and maintenance philosophy incorporated into the design of the facility. A plant of the reprocessing of irradiated fuel elements, includes the equipment and components which normally come in direct contact with and directly control the irradiated fuel and the major nuclear material and fission product processing streams.

(1) Fuel element chopping machines, i.e., remotely operated equipment specially designed or prepared to cut, chop, or shear irradiated nuclear reactor fuel assemblies, bundles, or rods.

(2) Critically safe tanks, i.e., small diameter, annular or slab tanks specially designed or prepared for the dissolution of irradiated nuclear reactor fuel.

(3) Solvent extraction equipment.

Especially designed or prepared solvent extractors such as packed or pulse columns, mixer settlers or centrifugal contractors for use in a plant for the reprocessing of irradiated fuel. Because solvent extractors must be resistant to the corrosive effect of nitric acid, they are normally fabricated to extremely high standards (including special welding and inspection and quality assurance and quality control techniques) out of low carbon stainless steels, titanium, zirconium or other high quality materials.

(4) Chemical holding or storage vessels.

Especially designed or prepared holding or storage vessels for use in a plant for the reprocessing of irradiated fuel. Because holding or storage vessels must be resistant to the corrosive effect of nitric acid, they are normally fabricated of materials such as low carbon stainless steels, titanium or zirconium, or other high quality materials. Holding or storage vessels may be designed for remote operation and maintenance and may have the following features for control of nuclear criticality:

(i) Walls or internal structures with a boron equivalent of at least 2 percent, or

(ii) A maximum diameter of 7 inches (17.78 cm) for cylindrical vessels, or

(iii) A maximum width of 3 inches (7.62 cm) for either a slab or annular vessel.

(5) Plutonium nitrate to plutonium oxide conversion systems. Complete systems especially designed or prepared for the conversion of plutonium nitrate to plutonium oxide, in particular adapted so as to avoid criticality and radiation effects and to minimize toxicity hazards.

(6) Plutonium metal production systems. Complete systems especially designed or prepared for the production of plutonium metal, in particular adapted so as to avoid criticality and radiation effects and to minimize toxicity hazards.

(7) Process control instrumentation specially designed or prepared for monitoring or controlling the processing of material in a reprocessing plant.

[55 FR 30451, July 26, 1990]

APPENDIX E TO PART 110—CATEGORIZATION OF NUCLEAR MATERIAL[d]

[From IAEA INFCIRC/225, Rev. 1]

Material	Form	Category		
		I	II	III[e]
1. Plutonium[a]	Unirradiated[b]	2 kg or more.	Less than 2 kg but more than 500 g.	500 g or less.
2. Uranium-235[c]	Unirradiated:[b]			

APPENDIX E TO PART 110—CATEGORIZATION OF NUCLEAR MATERIAL[d]—Continued

[From IAEA INFCIRC/225, Rev. 1]

Material	Form	Category		
		I	II	III[e]
	Uranium enriched to 20 pct U^{235} or more.	5 kg or more.	Less than 5 kg but more than 1 kg.	1 kg or less.
	Uranium enriched to 10 pct U^{235} but less than 20 pct.		10 kg or more	Less than 10 kg.
	Uranium enriched above natural, but less than 10 pct U^{235}.			10 kg or more.
3. Uranium-233	Unirradiated[b]	2 kg or more.	Less than 2 kg but more than 500 g.	500 g or less.

[a] All plutonium except that with isotopic concentration exceeding 80 pct in plutonium-238.

[b] Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 100 rd/h at 1 m unshielded.

[c] Natural uranium, depleted uranium, thorium and quantities of uranium enriched to less then 10% not falling into Category III should be protected in accordance with prudent management practice.

[d] Irradiated fuel should be protected as category I, II, or III nuclear material depending on the category of the fresh fuel. However, fuel which by virtue of its original fissile material content is included as category I or II before irradiation should only be reduced one category level, while the radiation level from the fuel exceeds 100 rd/h at 1 m unshielded.

[e] Physical security determinations will not be required for 15 g or less of plutonium, uranium-233 or high-enriched uranium, or for 1 kg or less of uranium with an enrichment between 10 and 20 pct in uranium-235.

(Sec. 161, as amended, Pub. L. 83-703, 68 Stat. 948 (42 U.S.C. 2201); sec. 201, as amended, Pub. L. 93-438, 88 Stat. 1243 (42 U.S.C. 5841))

[43 FR 21641, May 19, 1978. Redesignated and amended at 49 FR 47204, Dec. 3, 1984. Further redesignated at 55 FR 30450, July 26, 1990]

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

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140.108 Appendix H—Form of indemnity agreement with licensees possessing plutonium for use in plutonium processing and fuel fabrication plants and furnishing proof of financial protection in the form of the licensee's resources.
140.109 Appendix I.

AUTHORITY: Secs. 161, 170, 68 Stat. 948, 71 Stat. 576, as amended (42 U.S.C. 2201, 2210); secs. 201, as amended, 202, 88 Stat. 1242, as amended, 1244 (42 U.S.C. 5841, 5842).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 140.11(a), 140.12(a), 140.13 and 140.13a are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); and § 140.6 is issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 25 FR 2944, Apr. 7, 1960, unless otherwise noted.

Subpart A—General Provisions

§ 140.1 Purpose.

The regulations in this part are issued to provide appropriate procedures and requirements for determining the financial protection required of licensees and for the indemnific
tion and limitation of liability of ce
tain licensees and other persons purs
ant to section 170 of the Atom
Energy Act of 1954 (68 Stat. 919),
amended.

§ 140.2 Scope.

(a) The regulations in this pa
apply

(1) To each persons who is an appl
cant for or holder of a license issue
pursuant to part 50 of this chapter
operate a nuclear reactor, and

(2) With respect to extraordinar
nuclear occurrences, to each perso
who is an applicant for or holder of
license to operate a production facili
or a utilization facility, and to oth
persons indemnified with respect
such facility.

(3) To each person licensed pursua
to part 70 of this chapter to posse
and use plutonium in a plutoniu
processing and fuel fabrication plant.

(b)(1) Subpart B of this part do
not apply to any person subject to su
parts C or D of this part. Subpart C
this part applies only to persons foun
by the Commission to be Federal age
cies. Subpart D of this part appli
only to persons found by the Commi
sion to be nonprofit educational inst
tutions with respect to licenses and a
plications for licenses for the condu
of educational activities.

(2) Any applicant or licensee subje
to this part may apply for a findi
that such applicant or licensee is su
ject to the provisions of subparts C
D of this part. The application shou
state the grounds for the request
finding. Any application for a findi
pursuant to this paragraph may be i
cluded in an application for license.

(c) Subpart E of this part sets fort
the procedures the Commission w
follow and the criteria the Commi
sion will apply in making a determin
tion as to whether or not there h
been an extraordinary nuclear occu
rence. The form of nuclear energy
ability policy for facilities (append
A) and the forms of indemnity agre
ments with licensees (appendices B,
D, and E) include provisions requiri
the waiver of certain defenses with r
spect to an extraordinary nuclear o

currence. These provisions and subpart E are incorporated in this part pursuant to Pub. L. 89-645 (80 Stat. 891). They provide additional assurance of prompt compensation under available indemnity and underlying financial protection for injury or damage resulting from the hazardous properties of radioactive materials or radiation, and they in no way detract from the protection to the public otherwise provided under this part.

[25 FR 2944, Apr. 7, 1960, as amended at 33 FR 15998, Oct. 31, 1968; 42 FR 48, Jan. 3, 1977]

§ 140.3 Definitions.

As used in this part,

(a) *Act* means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto.

(b) *Commission* means the Nuclear Regulatory Commission or its duly authorized representatives.

(c) *Federal agency* means a Government agency such that any liability in tort based on the activities of such agency would be satisfied by funds appropriated by the Congress and paid out of the United States Treasury.

(d) *Financial protection* means the ability to respond in damages for public liability and to meet the cost of investigating and defending claims and settling suits for such damages.

(e) *Government agency* means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

(f) *Nuclear reactor* means any apparatus, other than an atomic weapon, designed or used to sustain nuclear fission in a self-supporting chain reaction.

(g) *Person* means: (1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department, except that the Department shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244), any State or any political subdivision thereof, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

(h) *Plutonium processing and fuel fabrication plant* means a plant in which the following operations or activities are conducted:

(1) Operations for manufacture of reactor fuel containing plutonium, where the license or licenses authorize the possession of either five or more kilograms of plutonium, excluding that contained in sealed sources and welded or otherwise sealed unirradiated or irradiated fuel rods, at the site of the plant or authorize the processing of one or more kilograms of plutonium, excluding that contained in sealed sources and welded or otherwise sealed unirradiated or irradiated fuel rods, at the plant, including any of the following processes: (i) Preparation of fuel material; (ii) formation of fuel material into desired shapes; (iii) application of protective cladding; (iv) recovery of scrap material; and (v) storage associated with such operations; or

(2) Research and development activities involving any of the operations described in paragraph (h)(1) of this section, except for research and development activities where the operator is licensed to possess or use plutonium in amounts less than those specified in paragraph (h)(1).

(i) *Source material* means source material as defined in the regulations contained in part 40 of this chapter.

(j) *Special nuclear material* means: (1) Plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artifically enriched by any of the foregoing, but does not include source material.

(k) *Testing reactor* means a nuclear reactor which is of a type described in § 50.21(c) of this chapter and for which an application has been filed for a license authorizing operation at:

(1) A thermal power level in excess of 10 megawatts; or

(2) A thermal power level in excess of 1 megawatt, if the reactor is to contain:

(i) A circulating loop through the core in which the applicant proposes to conduct fuel experiments; or

(ii) A liquid fuel loading; or

(iii) An experimental facility in the core in excess of 16 square inches in cross-section.

(l) *Department* means the Department of Energy established by the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565, 42 U.S.C. 7101 *et seq.*), to the extent that the Department, or its duly authorized representatives, exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers and components and transferred to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to sections 104 (b), (c) and (d) of the Energy Reorganization Act of 1974 (Pub. L. 93-438, 88 Stat. 1233 at 1237, 42 U.S.C. 5814) and retransferred to the Secretary of Energy pursuant to section 301(a) of the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565 at 577-578, 42 U.S.C. 7151).

[25 FR 2944, Apr. 7, 1960, as amended at 40 FR 8793, Mar. 3, 1975; 42 FR 48, Jan. 3, 1977; 45 FR 14201, Mar. 5, 1980]

§ 140.4 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretations of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 140.5 Communications.

Except where otherwise specified in this part, all communications and reports concerning the regulations in this part should be addressed to the Director of Nuclear Reactor Regulation, or Director of Nuclear Materia Safety and Safeguards, as appropriat U.S. Nuclear Regulatory Commissio Washington, DC 20555. Communic tions and reports may be delivered i person at the Commission's offices 2120 L Street NW., Washington, DC or at 11555 Rockville Pike, Rockvill MD.

[53 FR 6140, Mar. 1, 1988, as amended at FR 43422, Oct. 27, 1988]

§ 140.6 Reports.

(a) In the event of bodily injury o property damage arising out of or i connection with the possession or u of the radioactive material at the loc tion or in the course of transportatio or in the event any claim is mad therefor, written notice containin particulars sufficient to identify the l censee and reasonably obtainable in formation with respect to the tim place, and circumstances thereof, o the nature of the claim shall be fu nished by or for the licensee to the D rector of Nuclear Reactor Regulatio or Director of Nuclear Material Safet and Safeguards, as appropriate, U.S Nuclear Regulatory Commissio Washington, DC 20555 as promptly a practicable. The terms *the radioacti material, the location,* and *in th course of transportation* as used i this section shall have the meaning defined in the applicable indemnit agreement between the licensee an the Commission.

(b) The Commission may requir any person subject to this part to kee such records and furnish such report to the Commission as the Commissio deems necessary for the administr tion of the regulations in this part.

[25 FR 2944, Apr. 7, 1960, as amended at FR 16447, Apr. 19, 1976; 42 FR 49, Jan. 1977]

§ 140.7 Fees.

(a) Each reactor licensee shall pay fee to the Commission based on th following schedule:

(1) For indemnification from $50 million to $400 million inclusive, a fe of $30 per year per thousand kilowatt of thermal capacity authorized in th license;

(2) For indemnification from $399 million to $300 million inclusive, a fee of $24 per year per thousand kilowatts of thermal capacity authorized in the license;

(3) For indemnification from $299 million to $200 million inclusive, a fee of $18 per year per thousand kilowatts of thermal capacity authorized in the license;

(4) For indemnification from $199 million to $100 million inclusive, a fee of $12 per year per thousand kilowatts of thermal capacity authorized in the license;

(5) For indemnification from $99 million to $1 million inclusive, a fee of $6 per year per thousand kilowatts of thermal capacity authorized in the license.

Provided, however, That no fee shall be less than $100 per annum for any nuclear reactor. Such fee shall be due for the period beginning with the date on which the applicable indemnity agreement is effective and shall be paid in accordance with billing instructions received from the Commission. The various levels of indemnity fees are set forth in the schedule in this paragraph. The amount of indemnification for determining indemnity fees will be computed by subtracting from the statutory limit of liability the amount of financial protection required of the licensee. In the case of licensees subject to the provisions of § 140.11(a)(4), this total amount shall be the amount, as determined by the Commission, of the financial protection available to licensees at the close of the calendar year preceding the one in which the fee becomes due. For those instances in which a certified financial statement is provided as a guarantee of payment of deferred premiums in accordance with § 140.21(e), a fee of $1,000 or the indemnity fee, whichever is greater, shall be required.

(b) Where a licensee manufactures a number of nuclear reactors each having a power level not exceeding 3⅓ megawatts, for sale to others and operates them at the licensee's location temporarily prior to delivery, the licensee shall report to the Commission the maximum number of such reactors to be operated at that location at any one time. In such cases, the fee shall equal $100 multiplied by the number of reactors reported by the licensee. In the event the number of reactors operated at any one time exceed the estimate so reported, the licensee shall report the additional number of reactors to the Commission and additional charges will be made. If experience shows that less than the estimated number of reactors have been operated, appropriate adjustment in subsequent bills will be made by the Commission.

(c) Each person licensed to possess and use plutonium in a plutonium processing and fuel fabrication plant shall pay to the Commission a fee of $5,000 per year for indemnification. This fee shasll be due for the period beginning with the date on which the applicable indemnity agreement is effective and shall be paid in accordance with billing instructions received from the Commission.

[25 FR 2944, Apr. 7, 1960, as amended at 42 FR 49, Jan. 3, 1977]

§ 140.8 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and are otherwise in the public interest.

[34 FR 19546, Dec. 11, 1969]

§ 140.9 Modification of indemnity agreements.

The Commission will publish in the FEDERAL REGISTER a notice of its intent to enter into an indemnity agreement, or agreement amending an indemnity agreement, which contains provisions different from the form of the applicable indemnity agreement set forth in the appendices to this part, as such appendices may be amended from time to time.

[48 FR 1030, Jan. 10, 1983]

§ 140.9a Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0039.

(b) The approved information collection requirements contained in this part appear in §§ 140.6, 140.7, 140.15, 140.17, 140.20, 140.21 and 140.22.

[49 FR 19629, May 9, 1984]

Subpart B—Provisions Applicable Only to Applicants and Licensees Other Than Federal Agencies and Nonprofit Educational Institutions

§ 140.10 Scope.

This subpart applies to applicants for and holders of licenses issued pursuant to part 50 of this chapter authorizing operation of nuclear reactors, except licenses for the conduct of educational activities issued to, or applied, for by persons found by the Commission to be nonprofit educational institutions and except persons found by the Commission to be Federal agencies. This subpart also applies to persons licensed to possess and use plutonium in a plutonium processing and fuel fabrication plant.

[42 FR 49, Jan. 3, 1977]

§ 140.11 Amounts of financial protection for certain reactors.

(a) Each licensee is required to have and maintain financial protection:

(1) In the amount of $1,000,000 for each nuclear reactor he is authorized to operate at a thermal power level not exceeding ten kilowatts;

(2) In the amount of $1,500,000 for each nuclear reactor he is authorized to operate at a thermal power level in excess of ten kilowatts but not in excess of one megawatt;

(3) In the amount of $2,500,000 for each nuclear reactor other than a testing reactor or a reactor licensed under section 104b of the Act which he is authorized to operate at a thermal power level exceeding one megawatt but not in excess of ten megawatts; and

(4) In an amount equal to the sum
$200,000,000 and the amount availab
as secondary financial protection (
the form of private liability insuran
available under an industry retrospe
tive rating plan providing for deferre
premium charges equal to the pro ra
share of the aggregate public liabili
claims and costs, excluding costs pa
ment of which is not authorized
section 170o.(1)(D), in excess of th
covered by primary financial prote
tion) for each nuclear reactor which
licensed to operate and which is d
signed for the production of electric
energy and has a rated capacity
100,000 electrical kilowatts or mor
Provided, however, That under such
plan for deferred premium charges f
each nuclear reactor which is licens
to operate, no more than $63,000,0
with respect to any nuclear incide
(plus any surcharge assessed und
subsection 170o.(1)(E) of the Act) a
no more than $10,000,000 per incide
within one calendar year shall
charged.

(b) In any case where a person is a
thorized pursuant to part 50 of th
chapter to operate two or more nuc
ar reactors at the same location, t
total primary financial protection r
quired of the licensee for all such rea
tors is the highest amount whi
would otherwise be required for a
one of those reactors: *Provided*, Th
such primary financial protecti
covers all reactors at the location.

[25 FR 2944, Apr. 7, 1960, as amended at
FR 706, Jan. 17, 1969; 37 FR 3423, Feb.
1972; 39 FR 5310, Feb. 12, 1974; 40 FR 70
Feb. 19, 1975; 42 FR 49, Jan. 3, 1977; 42
20140, Apr. 18, 1977; 44 FR 20632, Apr.
1979; 54 FR 24158, June 6, 1989]

§ 140.12 Amount of financial protecti required for other reactors.

(a) Each licensee is required to ha
and maintain financial protection f
each nuclear reactor for which t
amount of financial protection is n
determined in § 140.11, in an amou
determined pursuant to the formu
and other provisions of this sectio
Provided, That in no event shall t
amount of financial protection r
quired for any nuclear reactor und
this section be less than $4,500,000
more than $74,000,000.

(b)(1) The formula is:

F=B times P.

(2) In the formula:

F=Amount of financial protection in dollars.
B=Base amount of financial protection.
P=Population factor.

(3) The base amount of financial protection is equal to $185 times the maximum power level, expressed in thermal kilowatts, as authorized by the applicable license.

(4) The population factor (P) shall be determined as follows:

(i) *Step 1.* The area to be considered includes all minor civil divisions (as shown in the 1950 Census of Population, Bureau of the Census, or later data available from the Bureau) which are wholly or partly within a circle with the facility at its center and having a radius in miles equal to the square root of the maximum authorized power level in thermal megawatts.

(ii) *Step 2.* Identify all minor civil divisions according to the same census which are in whole or in part within the circle determined in Step 1. Determine the population of each such minor civil division (according to the same census or later data available from the Bureau of the Census). For each minor civil division, divide its population by the square of the estimated distance to the nearest mile from the reactor to the geographic center of the minor civil division: *Provided,* That no such distance shall be deemed to be less than one mile. If the sum of the quotients thus obtained for all minor civil divisions wholly or partly within the circle is 1,000 or less, the population factor is 1. If the sum of these quotients is more than 1,000 but not more than 3,000, the population factor is 1.2. If the sum of these quotients is more than 3,000 but not more than 5,000, the population factor is 1.4. If the sum of these quotients is more than 5,000 but not more than 7,000, the population factor is 1.6. If the sum of these quotients is more than 7,000 but not more than 9,000, the population factor is 1.8. If the sum of these quotients is more than 9,000 the population factor is 2.0.

(c) In any case where a person is authorized pursuant to part 50 of this chapter to operate two or more nuclear reactors at the same location, the total financial protection required of the licensee for all such reactors is the highest amount which would otherwise be required for any one of those reactors: *Provided,* That such financial protection covers all reactors at the location.

(d) Except in cases where the amount of financial protection calculated under this section is a multiple of $100,000, amounts determined pursuant to this section shall be adjusted to the next highest multiple of $100,000.

[25 FR 2944, Apr. 7, 1960, as amended at 26 FR 1397, Feb. 17, 1961; 32 FR 8125, June 7, 1967]

§ 140.13 Amount of financial protection required of certain holders of construction permits.

Each holder of a construction permit under part 50 of this chapter authorizing construction of a nuclear reactor, who is also the holder of a license under part 70 of this chapter authorizing ownership possession and storage only of special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license under part 50 of this chapter, shall (during the period prior to issuance of the license authorizing operation of the reactor) have and maintain financial protection in the amount of $1,000,000. Proof of financial protection shall be filed with the Commission in the manner specified in § 140.15 prior to issuance of the license under part 70 of this chapter.

[25 FR 2944, Apr. 7, 1960, as amended at 32 FR 2563, Feb. 7, 1967]

§ 140.13a Amount of financial protection required for plutonium processing and fuel fabrication plants.

(a) Each holder of a license issued pursuant to part 70 of this chapter to possess and use plutonium at a plutonium processing and fuel fabrication plant is required to have and maintain financial protection in the form specified in § 140.14 in the amount of $200,000,000. Proof of financial protection shall be filed with the Commission in the manner in § 140.15 prior to issuance of the license under part 70 of this chapter.

(b) In any case, when a person is authorized pursuant to part 70 of this chapter to possess and use plutonium at two or more plutonium processing and fuel fabrication plants at the same location, the total financial protection required of the licensee for all such plants is the highest amount which would otherwise be required for any one of those plants: *Provided, however,* That such financial protection covers all such plants at the location.

[42 FR 49, Jan. 3, 1977, as amended at 42 FR 20140, Apr. 18, 1977; 44 FR 20632, Apr. 6, 1979; 54 FR 24158, June 6, 1989]

§ 140.14 Types of financial protection.

(a) The amounts of financial protection required under this part may be furnished and maintained in the form of:

(1) An effective policy of liability insurance from private sources; or

(2) Adequate resources to provide the financial protection required by §§ 140.11, 140.12; 140.13 or § 140.13a; or

(3) Such other type of financial protection as the Commission may approve; or

(4) Any combination of the foregoing.

(b) In any case where the Commission has approved proof of financial protection filed by a licensee the licensee shall not substitute one type of financial protection for another type without first obtaining the written approval of the Commission.

[25 FR 2944, Apr. 7, 1960, as amended at 42 FR 49, Jan. 3, 1977]

§ 140.15 Proof of financial protection.

(a)(1) Licensees who maintain financial protection in whole or in part in the form of liability insurance shall provide proof of financial protection that consists of a copy of the liability policy (or policies) together with a certificate by the insurers issuing the policy stating that the copy is a true copy of the currently effective policy issued to the licensee. The licensee may furnish proof of financial protection in the form of the nuclear energy liability insurance policy set forth in § 140.91 or in any other form acceptable to the Commission.

(2) Such proof may alternatively consist of a copy of the declaration page of a nuclear energy liabilit policy in the form set forth in § 140.9 and issued to the licensee: *Provided* That such policy form has been file by the insurers with the Commission The declarations page shall be accompanied by a certificate by the insure stating that said copy is a true copy o the declarations page of a currentl effective policy and identifying th policy (including endorsements) b reference to the policy form which ha been filed by them with the Commission.

(3) The Commission will accept an other form of nuclear energy liabilit insurance as proof of financial protection if it determines that the provisions of such insurance provide financial protection under the requirement of the Commission's regulations an the Act.

(b) Proof of financial protection i the case of licensees who maintain financial protection in whole or in par in the form specified in § 140.14(a)(2 shall consist of a showing that the licensee clearly has adequate resource to provide the financial protection required under this part. For this purpose the applicant or licensee shall fil with the Commission:

(1) Annual financial statements fo the three complete calendar or fisca years preceding the date of filing, together with an opinion thereon by certified public accountant. The financial statements shall include balanc sheets, operating statements and suc supporting schedules as may b needed for interpretation of the balance sheets and operating statements

(2) If the most recent statements required under paragraph (b)(1) of thi section have been prepared as of date more than 90 days prior to th date of filing, similar financial statements, prepared as of a date not mor than 90 days prior to the date o filing, should be included. These statements need not be reviewed by a certified public accountant.

(c) The Commission may require an licensee to file with the Commissio such additional proof of financial pro tection or other financial information as the Commission determines to be appropriate for the purpose of determining whether the licensee is maintaining financial protection as required under this part.

(d) Proof of financial protection shall be subject to the approval of the Commission.

(e) The licensee shall promptly notify the Commission of any material change in proof of financial protection or in other financial information filed with the Commission under this part.

[25 FR 2944, Apr. 7, 1960, as amended at 33 FR 15999, Oct. 31, 1968; 49 FR 11148, Mar. 26, 1984]

§ 140.16 Commission review of proof of financial protection.

The Commission will review proof of financial protection filed by any licensee or applicant for license. If the Commission finds that the licensee or applicant for license is maintaining financial protection in accordance with the requirements of this part, approval of the financial protection will be evidenced by incorporation of appropriate provision in the license.

§ 140.17 Special provisions applicable to licensees furnishing financial protection in whole or in part in the form of liability insurance.

In any case where a licensee undertakes to maintain financial protection in the form of liability insurance for all or part of the financial protection required by this part,

(a) The Commission may require proof that the organization or organizations which have issued such policies are legally authorized to issue them and do business in the United States and have clear ability to meet their obligations; and

(b) At least 30 days prior to the termination of any such policy, the licensee shall notify the Commission of the renewal of such policy or shall file other proof of financial protection.

§ 140.18 Special provisions applicable to licensees furnishing financial protection in whole or in part in the form of adequate resources.

In any case where a licensee undertakes to maintain financial protection in the form specified in § 140.14(a)(2) for all or part of the financial protection required by this part, the Commission may require such licensee to file with the Commission such financial information as the Commission determines to be appropriate for the purpose of determining whether the licensee is maintaining financial protection as required by this part.

[42 FR 43385, Aug. 29, 1977]

§ 140.19 Failure by licensees to maintain financial protection.

In any case where the Commission finds that the financial protection maintained by a licensee is not adequate to meet the requirements of this part, the Commission may suspend or revoke the license or may issue such order with respect to licensed activities as the Commission determines to be appropriate or necessary in order to carry out the provisions of this part and of section 170 of the Act.

§ 140.20 Indemnity agreements and liens.

(a) The Commission will execute and issue agreements of indemnity pursuant to the regulations in this part or such other regulations as may be issued by the Commission. Such agreements, as to any licensee, shall be effective on:

(1)(i) The effective date of the license (issued pursuant to part 50 of this chapter) authorizing the licensee to operate the nuclear reactor involved; or (ii) the effective date of the license (issued pursuant to part 70 of this chapter) authorizing the licensee to possess and store special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license for the reactor, whichever is earlier. No such agreement, however, shall be effective prior to September 26, 1957; or

(2) August 1, 1977 or the effective date of the license (issued pursuant to part 70 of this chapter) authorizing the licensee to possess and use plutonium at the site of the plutonium processing and fuel fabrication plant for processing in that plant, whichever date is later.

(b) If the licensee fails to pay assessed deferred premiums, the Commission reserves the right to pay those premiums on behalf of the licensee and to recover the amount of such premiums from the licensee.

(c) The Commission shall require the immediate submission of financial statements by those licensees who indicate, after an assessment of the retrospective premium by the insurance pools, that they will not pay the assessment. Such financial statements shall include, as a minimum, exhibits indicating internally generated funds from operations and accumulated retained earnings. Subsequent submission of financial statements by such licensees may be requested by the Commission, as required.

(d) If premiums are paid by the Commission as provided in paragraph (b) of this section, payment by the Commission shall create a lien in the amount paid in favor of the United States upon all property and rights to property, whether real or personal, belonging to such licensee. The lien shall arise at the time payment is made by the Commission and shall continue until the liability for the amount (or a judgment against the licensee arising out of such liability) is satisfied or becomes unenforceable. The Commission will issue a certificate of release of any such lien if it finds that the liability for the amount has been fully satisfied or has become legally unenforceable.

(e) If the Commission determines that the licensee is financially able to reimburse the Commission for a deferred premium payment made in its behalf, and the licensee, after notice of such determination by the Commission fails to make such reimbursement within 120 days, the Commission will take appropriate steps to suspend the license for 30 days. The Commission may take such further action as is necessary if reimbursement is not made within the 30-day suspension period including but not limited to termination of the operating license.

(f)(1)(i) The general form of indemnity agreement to be entered into by the Commission with reactor licensees who furnish financial protection in the form of the nuclear energy liability insurance policy set forth in appendix A is contained in § 140.92, appendix B. The general form of indemnity agreement to be entered into by the Commission with reactor licensees who furnish financial protection in the form specified in § 140.14(a)(2) is set forth in § 140.93, appendix C.

(ii) The general form of indemnity agreement to be entered into by the Commission with persons licensed to possess and use plutonium in a plutonium processing and fuel fabrication plant and who furnish financial protection in the form of the nuclear energy liability insurance policy set forth in appendix A [1] is contained in § 140.107, appendix G. The general form of indemnity agreement to be entered into by the Commission with such licensees who furnish financial protection in the form specified in § 140.14(a)(2) is set forth in § 140.108, appendix H.

(2) The form of indemnity agreement to be entered into by the Commission with any particular licensee under this subpart shall contain such modifications of the applicable form in §§ 140.92, 140.94, 140.107 and 140.108, appendices A, B, C, G and H as are provided for in applicable licenses, regulations or orders of the Commission.

(3) Each licensee who has execute an indemnity agreement under thi subpart shall enter into such agreements amending such indemnity agreement as are required by applicable licenses, regulations, or orders o the Commission.

[42 FR 49, Jan. 3, 1977]

§ 140.21 Licensee guarantees of paymen of deferred premiums.

Each licensee required to have an maintain financial protection for eac nuclear reactor as determined i § 140.11(a)(4) shall at the issuance o the license and annually, on the anniversary of the date on which the indemnity agreement is effective, provide evidence to the Commission tha it maintains one of the following type of guarantee of payment of deferred premiums in an amount of $10 million for each reactor he is licensed to operate:

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[1] The form of the nuclear energy liabilit insurance policy for these licensees will b the subject of pertinent endorsements afte discussion with the insurance pools.

(a) Surety bond,

(b) Letter of credit,

(c) Revolving credit/term loan arrangement,

(d) Maintenance of escrow deposits of government securities,

(e) Annual certified financial statement showing either that a cash flow (i.e., cash available to a company after all operating expenses, taxes, interest charges, and dividends have been paid) can be generated and would be available for payment of retrospective premiums within three (3) months after submission of the statement, or a cash reserve or a combination of cash flow and cash reserve, or

(f) Such other type of guarantee as may be approved by the Commission.

[42 FR 50, Jan. 3, 1977]

§ 140.22 Commission guarantee and reimbursement agreements.

Each licensee required to have and maintain financial protection for each nuclear reactor as determined in § 140.11(a)(4) shall execute an indemnity agreement with the Commission that provides for the payment by the Commission of deferred premiums not paid by the licensee and reimbursement of the Commission by the licensee. The general forms of agreement to be entered into by the Committee and licensees are set forth in § 140.92, appendix B and § 140.93, appendix C.

[42 FR 50, Jan. 3, 1977]

Subpart C—Provisions Applicable Only to Federal Agencies

§ 140.51 Scope.

This subpart applies only to persons found by the Commission to be Federal agencies, which have applied for or are holders of licenses issued pursuant to part 50 of this chapter authorizing operation of nuclear reactors.

NOTE: Federal agencies are not required to furnish financial protection.

§ 140.52 Indemnity agreements.

(a) The Commission will execute and issue agreements of indemnity with each Federal agency subject to this subpart pursuant to the regulations in this part or such other regulations as may be issued by the Commission. Such agreements, as to any licensee, shall be effective on:

(1) The effective date of the license (issued pursuant to part 50 of this chapter) authorizing the licensee to operate the nuclear reactor involved; or

(2) The effective date of the license (issued pursuant to part 70 of this chapter) authorizing the licensee to possess and store special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license for the reactor, whichever is earlier. No such agreement, however, shall be effective prior to September 26, 1957.

(b)(1) The general form of indemnity agreement to be entered into with licensees subject to this subpart is contained in § 140.94 appendix D.

(2) The form of indemnity agreement to be entered into by the Commission with any particular licensee under this subpart shall contain such modifications of the form in § 140.94, as are provided for in applicable licenses, regulations or orders of the Commission.

(3) Each licensee who has executed an indemnity agreement under this subpart shall enter into such agreements amending such indemnity agreement as are required by applicable licenses, regulations or orders of the Commission.

[27 FR 2885, Mar. 29, 1962, as amended at 33 FR 15999, Oct. 31, 1968]

Subpart D—Provisions Applicable Only to Nonprofit Educational Institutions

§ 140.71 Scope.

This subpart applies only to applicants for and holders of licenses issued for the conduct of educational activities to persons found by the Commission to be nonprofit educational institutions, except that this subpart does not apply to Federal agencies.

NOTE: Financial protection is not required with respect to licenses issued for the conduct of educational activities to persons found by the Commission to be non-profit educational institutions.

§ 140.72 Indemnity agreements.

(a) The Commission will execute and issue agreements of indemnity with each non-profit educational institution subject to this subpart pursuant to the regulations in this part or such other regulations as may be issued by the Commission. Such agreements, as to any licensee, shall be effective on:

(1) The effective date of the license (issued pursuant to part 50 of this chapter) authorizing the licensee to operate the nuclear reactor involved; or

(2) The effective date of the license (issued pursuant to part 70 of this chapter) authorizing the licensee to possess and store special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license for the reactor, whichever is earlier. No such agreement, however, shall be effective prior to September 26, 1957.

(b)(1) The general form of indemnity agreement to be entered into with licensees subject to this subpart is contained in § 140.95 appendix E.

(2) The form of indemnity agreement to be entered into by the Commission with any particular licensee under this subpart shall contain such modifications of the form in § 140.95 appendix E, as are provided for in applicable licenses, regulations or orders of the Commission.

(3) Each licensee who has executed an indemnity agreement under this subpart shall enter into such agreements amending such indemnity agreement as are required by applicable licenses, regulations or orders of the Commission.

[27 FR 2885, Mar. 29, 1962, as amended at 33 FR 15999, Oct. 31, 1968]

Subpart E—Extraordinary Nuclear Occurrences

§ 140.81 Scope and purpose.

(a) *Scope.* This subpart applies to applicants for and holders of licenses authorizing operation of production facilities and utilization facilities, and to other persons indemnified with respect to such facilities.

(b) *Purpose.* One purpose of this subpart is to set forth the criteria which the Commission proposes to follow in order to determine whether there has been an "extraordinary nuclear occurrence." The other purpose is to establish the conditions of the waivers of defenses proposed for incorporation in indemnity agreements and insurance policies or contracts furnished as proof of financial protection.

(1) The system is to come into effect only where the discharge or dispersal constitutes a substantial amount of source, special nuclear or byproduct material, or has caused substantial radiation levels offsite. The various limits in present NRC regulations are not appropriate for direct application in the determination of an "extraordinary nuclear occurrence," for they were arrived at with other purposes in mind, and those limits have been set at a level which is conservatively arrived at by incorporating a significant safety factor. Thus, a discharge or dispersal which exceeds the limits in NRC regulations, or in license conditions, although possible cause for concern, is not one which would be expected to cause substantial injury or damage unless it exceeds by some significant multiple the appropriate regulatory limit. Accordingly, in arriving at the values in the criteria to be deemed "substantial" it is more appropriate to adopt values separate from NRC health and safety regulations, and, of course, the selection of these values will not in any way affect such regulations. A substantial discharge, for purposes of the criteria, represents a perturbation of the environment which is clearly above that which could be anticipated from the conduct of normal activities. The criteria are intended solely for the purposes of administration of the Commission's statutory re-

sponsibilities under Pub. L. 89-645, and are not intended to indicate a level of discharge or dispersal at which damage to persons or property necessarily will occur, or a level at which damage is likely to occur, or even a level at which some type of protective action is indicated. It should be clearly understood that the criteria in no way establish or indicate that there is a specific threshold of exposure at which biological damage from radiation will take place. It cannot be emphasized too frequently that the levels set to be used as criteria for the first part of the determination, that is, the criteria for amounts offsite or radiation levels offsite which are substantial, are not meant to indicate that, because such amounts or levels are determined to be substantial for purposes of administration, they are "substantial" in terms of their propensity for causing injury or damage.

(2) It is the purpose of the second part of the determination that the Commission decide whether there have in fact been or will probably be substantial damages to persons offsite or property offsite. The criteria for substantial damages were formulated, and the numerical values selected, on a wholly different basis from that on which the criteria used for the first part of the determination with respect to substantial discharge were derived. The only interrelation between the values selected for the discharge criteria and the damage criteria is that the discharge values are set so low that it is extremely unlikely the damage criteria could be satisfied unless the discharge values have been exceeded.

(3) The first part of the test is designed so that the Commission can assure itself that something exceptional has occurred; that something untoward and unexpected has in fact taken place and that this event is of sufficient significance to raise the possibility that some damage to persons or property offsite has resulted or may result. If there appears to be no damage, the waivers will not apply because the Commission will be unable, under the second part of the test, to make a determination that "substantial damages" have resulted or will probably result. If damages have resulted or will probably result, they could vary from de minimis to serious, and the waivers will not apply until the damages, both actual and probable, are determined to be "substantial" within the second part of the test.

(4) The presence or absence of an extraordinary nuclear occurrence determination does not concomitantly determine whether or not a particular claimant will recover on his claim. In effect, it is intended primarily to determine whether certain potential obstacles to recovery are to be removed from the route the claimant would ordinarily follow to seek compensation for his injury or damage. If there has not been an extraordinary nuclear occurrence determination, the claimant must proceed (in the absence of settlement) with a tort action subject to whatever issues must be met, and whatever defenses are available to the defendant, under the law applicable in the relevant jurisdiction. If there has been an extraordinary nuclear occurrence determination, the claimant must still proceed (in the absence of settlement) with a tort action, but the claimant's burden is substantially eased by the elimination of certain issues which may be involved and certain defenses which may be available to the defendant. In either case the defendant may defend with respect to such of the following matters as are in issue in any given claim: The nature of the claimant's alleged damages, the causal relationship between the event and the alleged damages, and the amount of the alleged damages.

[33 FR 15999, Oct. 31, 1968, as amended at 40 FR 8793, Mar. 3, 1975]

§ 140.82 Procedures.

(a) The Commission may initiate, on its own motion, the making of a determination as to whether or not there has been an extraordinary nuclear occurrence. In the event the Commission does not so initiate the making of a determination, any affected person, or any licensee or person with whom an indemnity agreement is executed or a person providing financial protection may petition the Commission for a determination of whether or not there has been an extraordinary nuclear occurrence. If the Commission does not have, or does not expect to have, within 7 days after it has received notification of an alleged event, enough information available to make a determination that there has been an extraordinary nuclear occurrence, the Commission will publish a notice in the FEDERAL REGISTER setting forth the date and place of the alleged event and requesting any persons having knowledge thereof to submit their information to the Commission.

(b) When a procedure is initiated under paragraph (a) of this section, the Commission will designate members of the principal staff to begin immediately to assemble the relevant information and prepare a report on which the Commission can make its determination.

[33 FR 15999, Oct. 31, 1968, as amended at 40 FR 8794, Mar. 3, 1975]

§ 140.83 Determination of extraordinary nuclear occurrence.

If the Commission determines that both of the criteria set forth in §§ 140.84 and 140.85 have been met, it will make the determination that there has been an extraordinary nuclear occurrence. If the Commission publishes a notice in the FEDERAL REGISTER in accordance with § 140.82(a) and does not make a determination within 90 days thereafter that there has been an extraordinary nuclear occurrence, the alleged event will be deemed not to be an extraordinary nuclear occurrence. The time for the making of a determination may be extended by the Commission by notice published in the FEDERAL REGISTER.

[33 FR 15999, Oct. 31, 1968]

§ 140.84 Criterion I—Substantial discharge of radioactive material or substantial radiation levels offsite.

The Commission will determine that there has been a substantial discharge or dispersal of radioactive material offsite, or that there have been substantial levels of radiation offsite, when, as a result of an event comprised of one or more related happenings, radioactive material is released from its intended place of confinement or radiation levels occur offsite and either of the following findings also made:

(a) The Commission finds that or more persons offsite were, c have been, or might be exposed t diation or to radioactive material sulting in a dose or in a projected in excess of one of the levels in the lowing table:

TOTAL PROJECTED RADIATION DOSES

Critical organ	Dose
Thyroid	
Whole body	
Bone marrow	
Skin	
Other organs or tissues	

Exposures from the following typ sources of radiation shall be inclu

(1) Radiation from sources exte to the body;

(2) Radioactive material that ma taken into the body from its oc rence in air or water; and

(3) Radioactive material that ma taken into the body from its oc rence in food or on terrestrial surf

(b) The Commission finds that:

(1) Surface contamination of at l a total of any 100 square meters of site property has occurred as result of a release of radioactive m rial from a production or utiliza facility and such contamination characterized by levels of radiatio excess of one of the values liste Column 1 or Column 2 of the fol ing table, or

(2) Surface contamination of offsite property has occurred as result of a release of radioactive m rial in the course of transporta and such contamination is charac ized by levels of radiation in exces one of the values listed in column the following table:

TOTAL SURFACE CONTAMINATION LEVELS [1]

Type of emitter	Column 1 Offsite property, contiguous to site, owned or leased by person with whom an indemnity agreement is executed	Column 2 Other offsite property
Alpha emission from transuranic isotopes.	3.5 microcuries per square meter.	0.35 microcuries per square meter.
Alpha emission from isotopes other than transuranic isotopes.	35 microcuries per square meter.	3.5 microcuries per square meter.
Beta or gamma mission.	40 millirads/hour @ 1 cm.[2].	4 millirads/hour @ 1 cm.[2]

[1] The maximum levels (above background), observed or projected, 8 or more hours after initial deposition.

[2] Measured through not more than 7 milligrams per square centimeter of total absorber.

[33 FR 15999, Oct. 31, 1968, as amended at 40 FR 8794, Mar. 3, 1975]

§ 140.85 Criterion II—Substantial damages to persons offsite or property offsite.

(a) After the Commission has determined that an event has satisfied Criterion I, the Commission will determine that the event has resulted or will probably result in substantial damages to persons offsite or property offsite if any of the following findings are made:

(1) The Commission finds that such event has resulted in the death or hospitalization, within 30 days of the event, of five or more people located offsite showing objective clinical evidence of physical injury from exposure to the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material; or

(2) The Commission finds that $2,500,000 or more of damage offsite has been or will probably be sustained by any one person, or $5 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event; or

(3) The Commission finds that $5,000 or more of damage offsite has been or will probably be sustained by each of 50 or more persons, provided that $1 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event.

(b) As used in paragraphs (a) (2) and (3) of this section, "damage" shall be that arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material, and shall be based upon estimates of one or more of the following:

(1) Total cost necessary to put affected property back into use,

(2) Loss of use of affected property,

(3) Value of affected property where not practical to restore to use,

(4) Financial loss resulting from protective actions appropriate to reduce or avoid exposure to radiation or to radioactive materials.

[33 FR 15999, Oct. 31, 1968]

APPENDICES TO PART 140

§ 140.91 Appendix A—Form of nuclear energy liability policy for facilities.

While the text of the policy which follows is exemplary of a contract acceptable to the Commission as evidence of the financial protection required of the licensee by section 170 of the Atomic Energy Act of 1954, as amended, variations on this text submitted by the licensee also will be considered by the Commission in determining whether the licensee meets the financial protection requirements of the Act. The full text of the policy is published solely for the purpose of completeness. Publication of this text should not be construed as a Commission endorsement of any particular provision pertaining solely to the business relationship between the insurers and the insureds or to any other matter not within the Commission's statutory jurisdiction under the Atomic Energy Act.

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

The undersigned members of ———, hereinafter called the "companies," each for itself, severally and not jointly, and in the respective proportions hereinafter set forth, agree with the insured, named in the declarations made a part hereof, in consideration of the premium and in reliance upon the statements in the declarations and subject to the limit of liability, exclusions, conditions and other terms of this policy;

INSURING AGREEMENTS

I. *Coverage A—Bodily injury and property damage liability.* To pay on behalf of the insured:

(1) All sums which the insured shall become legally obligated to pay as damages because of bodily injury or property damage caused by the nuclear energy hazard, and the companies shall defend any suit against the insured alleging such bodily injury or property damage and seeking damages which are payable under the terms of this policy; but the companies may make such investigation, negotiation and settlement of any claim or suit as they deem expedient;

(2) Costs taxed against the insured in any such suit and interest on any judgment therein;

(3) Premiums on appeal bonds and on bonds to release attachments in any such suit, but without obligation to apply for or furnish such bonds;

(4) Reasonable expenses, other than loss of earnings, incurred by the insured at the companies' request.

Coverage B—Damage to property of an insured away from the facility. With respect to property damage caused by the nuclear energy hazard to property of an insured which is away from the facility, to pay to such insured those sums which such insured would have been legally obligated to pay as damages therefor, had such property belonged to another.

Coverage C—Subrogation—Offsite employees. With respect to bodily injury sustained by any employee of an insured and caused by the nuclear energy hazard, to pay to the workmen's compensation carrier of such insured all sums which such carrier would have been entitled to recover and retain as damages from another person or organization, had such person or organization alone been legally responsible for such bodily injury, by reason of the rights acquired by subrogation by the payment of the benefits required of such carrier under the applicable workmen's compensation or occupational disease law. An employer who is a duly qualified self-insurer under such law shall be deemed to be a workmen's compensation carrier within the meaning of this coverage. This Coverage C does not apply to bodily injury sustained by any person who is employed at and in connection with the facility. This Coverage C shall not constitute workmen's compensation insurance as required under the laws of any state.

II. *Definition of insured.* The unqualified word *insured* includes (a) the named insured and (b) any other person or organization with respect to his legal responsibility for damages because of bodily injury or property damage caused by the nuclear energy hazard.

Subdivision (b) above does not include as an insured the United States of America or any of its agencies.

Subject to Condition 3 and the other provisions of this policy, the insurance applies separately to each insured against whom claim is made or suit is brought.

III. *Definitions.* Wherever used in this policy:

Bodily injury means bodily injury, sickness or disease, including death resulting therefrom, sustained by any person;

Property damage means physical injury to or destruction or radioactive contamination of property, and loss of use of property so injured, destroyed or contaminated, and loss of use of property while evacuated or withdrawn from use because possibly so contaminated or because of imminent danger of such contamination;

Nuclear material means source material, special nuclear material or byproduct material;

Source material, special nuclear material, and *byproduct material* have the meanings given them in the Atomic Energy Act of 1954, or in any law amendatory thereof;

Spent fuel means any fuel element or fuel component, solid or liquid, which has been used or exposed to radiation in any nuclear reactor;

Waste means any waste material (1) containing byproduct material and (2) resulting from the operation by any person or organization of any nuclear facility included within the definition of nuclear facility under paragraph (1) or (2) thereof;

The facility means the facility described in the declarations and includes the location designated in Item 3 of the declarations and all property and operations at such location;

Nuclear facility means *the facility* as defined in any Nuclear Energy Liability Policy (Facility Form) issued by the companies or by ——————————.

The term *nuclear facility* also means

(1) Any nuclear reactor,

(2) Any equipment or device designed or used for (a) separating the isotopes of uranium or plutonium, (b) processing or utilizing spent fuel, or (c) handling, processing or packaging waste,

(3) Any equipment or device used for the processing, fabricating or alloying of special nuclear material if at any time the total amount of such material in the custody of the insured at the premises where such equipment or device is located consists of or contains more than 25 grams of plutonium or uranium-233 or any combination thereof, or more than 250 grams of uranium-235,

(4) Any structure, basin, excavation, premises or place prepared or used for the storage or disposal of waste, and includes the

site on which any of the foregoing is located, all operations conducted on such site and all premises used for such operations;

Indemnified nuclear facility means

(1) *The facility* as defined in any Nuclear Energy Liability Policy (Facility Form) issued by the companies or by ———— ————.

(2) Any other nuclear facility,

if financial protection is required pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof, with respect to any activities or operations conducted thereat;

Nuclear reactor means any apparatus designed or used to sustain nuclear fission in a self-supporting chain reaction or to contain a critical mass of fissionable material;

Nuclear energy hazard means the radioactive, toxic, explosive or other hazardous properties of nuclear material, but only if:

(1) The nuclear material is at the facility or has been discharged or dispersed therefrom without intent to relinquish possession or custody thereof to any person or organization, or

(2) The nuclear material is in an insured shipment which is (a) in the course of transportation, including handling and temporary storage incidental thereto, within the territorial limits of the United States of America, its territories or possessions, Puerto Rico or the Canal Zone and (b) away from any other nuclear facility;

Insured shipment means a shipment of source material, special nuclear material, spent fuel of waste, herein called *material*, (1) to the facility from a nuclear facility owned by the United States of America, but only if the transportation of the material is not by predetermination to be interrupted by the removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location except an indemnified nuclear facility, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

IV. *Application of policy.* This policy applies only to bodily injury or property damage (1) which is caused during the policy period by the nuclear energy hazard and (2) which is discovered and for which written claim is made against the insured, not later than two years after the end of the policy period.

EXCLUSIONS

This policy does not apply:

(a) To any obligation for which the insured or any carrier as his insurer may be held liable under any workmen's compensation, unemployment compensation or disability benefits law, or under any similar law;

(b) Except with respect to liability of another assumed by the insured under contract, to bodily injury to any employee of the insured arising out of and in the course of his employment by the insured; but this exclusion does not apply to bodily injury to any person who is not employed at and in connection with the facility if the insured has complied with the requirements of the applicable workmen's compensation or occupational disease law respecting the securing of compensation benefits thereunder to his employees;

(c) To liability assumed by the insured under contract, other than an assumption in a contract with another of the liability of any person or organization which would be imposed by law on such person or organization in the absence of an express assumption of liability;

(d) To bodily injury or property damage due to the manufacturing, handling or use at the location designated in Item 3 of the declarations, in time of peace or war, of any nuclear weapon or other instrument of war utilizing special nuclear material or byproduct material;

(e) To bodily injury or property damage due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or conditions incident to any of the foregoing;

(f) To property damage to any property at the location designated in Item 3 of the declarations, other than aircraft, watercraft or vehicles licensed for highway use, provided such aircraft, watercraft or vehicles are not used in connection with the operation of the facility;

(g) To property damage to nuclear material in the course of transportation to or from the facility including handling or storage incidental thereto;

(h) Under Coverage B, to property damage due to neglect of the insured to use all reasonable means to save and preserve the property after knowledge of the occurrence resulting in such property damage.

CONDITIONS

1. *Premium*—(1) *Definitions.* With reference to the premium for this policy: *advance premium*, for any calendar year, is the estimated standard premium for that calendar year;

Standard premium, for any calendar year, is the premium for that calendar year computed in accordance with the companies' rules, rates, rating plans (other than the Industry Credit Rating Plan), premiums and minimum premiums applicable to this insurance;

Reserve premium means that portion of the standard premium paid to the companies and specifically allocated under the Industry Credit Rating Plan for incurred losses. The amount of the *reserve premium* for this policy for any calendar year during which this policy is in force is the amount designated as such in the Standard Premium Endorsement for that calendar year;

Industry reserve premium, for any calendar year, is the sum of the reserve premiums for that calendar year for all Nuclear Energy Liability Policies issued by the Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters and subject to the Industry Credit Rating Plan;

Policy refund ratio, for any calendar year, is the ratio of the named insured's reserve premium for that calendar year to the industry reserve premium for that calendar year;

Incurred losses means the sum of:

(1) All losses and expenses by Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, and

(2) All reserves for unpaid losses and expenses as estimated by Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters because of obligations assumed and the expenses incurred in connection with such obligations by members of Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters under all Nuclear Energy Liability Policies issued by Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters and subject to the Industry Credit Rating Plan;

Reserve for refunds, at the end of any calendar year, is the amount by which (1) the sum of all industry reserve premiums for the period from January 1, 1957 through the end of such calendar year exceeds (2) the total for the same period of (a) all incurred losses, valued as of the next following July 1, and (b) all reserve premium refunds made under the Industry Credit Rating Plan by members of Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters;

Industry reserve premium refund, for any calendar year, is determined by multiplying the reserve for refunds at the end of the ninth calendar year thereafter by the ratio of the industry reserve premium for the calendar year for which the premium refund is being determined to the sum of such amount and the total industry reserve premiums for the next nine calendar years thereafter, provided that the industry reserve premium refund for any calendar year shall in no event be greater than the industry reserve premium for such calendar year.

(2) *Payment of advance and standard premiums.* The named insured shall pay the companies the advance premium stated in the declarations, for the period from the effective date of this policy through December 31 following. Thereafter, at the beginning of each calendar year while this policy is in force, the named insured shall pay the advance premium for such year to the companies. The advance premium for each calendar year shall be stated in the Advance Premium Endorsement for such calendar year issued to the named insured as soon as practicable prior to or after the beginning of such year.

As soon as practicable after each December 31 and after the termination of this policy, the standard premium for the preceding calendar year shall be finally determined and stated in the Standard Premium Endorsement for that calendar year. If the standard premium so determined exceeds the advance premium previously paid for such calendar year, the named insured shall pay the excess to the companies; if less, the companies shall return to the named insured the excess portion paid by such insured.

The named insured shall maintain records of the information necessary for premium computation and shall send copies of such records to the companies as directed, at the end of each calendar year, at the end of the policy period and at such other times during the policy period as the companies may direct.

(3) *Use of reserve premiums.* All reserve premiums paid or payable for this policy may be used by the members of Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters to discharge their obligations with respect to incurred losses whether such losses are incurred under this policy or under any other policy issued by the Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters.

(4) *Reserve premium refunds.* A portion of the reserve premium for this policy for the first calendar year of any group of ten consecutive calendar years shall be returnable to the named insured provided there is a reserve for refunds at the end of the tenth calendar year.

(5) *Computation of reserve premium refunds.* The reserve premium refund due the named insured for any calendar year shall be determined by multiplying any industry reserve premium refund for such calendar year by the policy refund ratio for such calendar year. The reserve premium refund for any calendar year shall be finally determined as soon as practicable after July 1 of the tenth calendar year thereafter.

(6) *Final premium.* The final premium for this policy shall be the sum of the standard premiums for each calendar year, or portion thereof, during which this policy remains in force less the sum of all refunds of reserve premiums due the named insured under the provisions of this Condition 1.

(7) *Reserve premium refund agreement.* Each member of Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters subscribing this policy for any calendar year, or portion thereof, thereby agrees for itself, severally and not jointly, and in the respective proportion of its liability assumed under this policy for that calendar year, to return to the named insured that portion of any reserve premium refund due the named insured for that calendar year, determined in accordance with the provisions of this Condition 1.

2. *Inspection; suspension.* The companies shall be permitted to inspect the facility and to examine the insured's books and records at any time, as far as they relate to the subject-matter of this insurance.

If a representative of the companies discovers a condition which he believes to be unduly dangerous with respect to the nuclear energy hazard, a representative of the companies may request that such condition be corrected without delay. In the event of noncompliance with such request, a representative of the companies may, by notice to the named insured, to any other person or organization considered by the companies to be responsible for the continuance of such dangerous condition, and to the United States Atomic Energy Commission, suspend the insurance with respect to the named insured and such other person or organization effective 12:00 midnight of the next business day of such Commission following the date that such Commission receives such notice. The period of such suspension shall terminate as of the time stated in a written notice from the companies to the named insured and to each such person or organization that such condition has been corrected.

3. *Limit of liability; termination of policy upon exhaustion of limit.* Regardless of the number of persons and organizations who are insureds under this policy, and regardless of the number of claims made and suits brought against any or all insureds because of one or more occurrences resulting in bodily injury or property damage caused during the policy period by the nuclear energy hazard, the limit of the companies' liability stated in the declarations is the total liability of the companies for their obligations under this policy and the expenses incurred by the companies in connection with such obligations, including

(a) Payments in settlement of claims and in satisfaction of judgments against the insureds for damages because of bodily injury or property damage, payments made under parts (2), (3) and (4) of Coverage A and payments made in settlement of claims under Coverages B and C;

(b) Payments for expenses incurred in the investigation, negotiation, settlement and defense of any claim or suit, including, but not limited to, the cost of such services by salaried employees of the companies, fees and expenses of independent adjusters, attorneys' fees and disbursements, expenses for expert testimony, inspection and appraisal of property, examination, X-ray or autopsy or medical expenses of any kind;

(c) Payments for expenses incurred by the companies in investigating an occurrence resulting in bodily injury or property damage or in minimizing its effects.

Each payment made by the companies in discharge of their obligations under this policy or for expenses incurred in connection with such obligations shall reduce by the amount of such payment the limit of the companies' liability under this policy.

If, during the policy period or subsequent thereto, the total of such payments made by the companies shall exhaust the limit of the companies' liability under this policy, all liability and obligations of the companies under this policy shall thereupon terminate and shall be conclusively presumed to have been discharged. This policy, if not theretofore canceled, shall thereupon automatically terminate.

Regardless of the number of years this policy shall continue in force and the number of premiums which shall be payable or paid, the limit of the companies' liability stated in the declarations shall not be cumulative from year to year.

4. *Limitation of liability; common occurrence.* Any occurrence or series of occurrences resulting in bodily injury or property damage arising out of the radioactive, toxic, explosive or other hazardous properties of

(a) Nuclear material discharged or dispersed from the facility over a period of days, weeks, months or longer and also arising out of such properties of other nuclear material so discharged or dispersed from one or more other nuclear facilities insured by the companies under a Nuclear Energy Liability Policy (Facility Form), or

(b) Source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under this policy and also arising out of such properties of other source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under one or more other Nuclear Energy Liability Policies (Facility Form) issued by the companies, shall be deemed to be a common occurrence resulting in bodily injury or property damage caused by the nuclear energy hazard.

With respect to such bodily injury and property damage (1) the total aggregate liability of the companies under all Nuclear Energy Liability Policies (Facility Form), including this policy, applicable to such common occurrence shall be the sum of the limits of liability of all such policies, the limit of liability of each such policy being as determined by Condition 3 thereof, but in no event shall such total aggregate liability of the companies exceed $ ———;[1] (2) the total liability of the companies under this policy shall not exceed that proportion of the total aggregate liability of the companies, as stated in clause (1) above, which (a) the limit of liability of this policy, as determined by Condition 3, bears to (b) the sum of the limits of liability of all such policies issued by the companies, the limit of liability of each such policy being as determined by Condition 3, thereof.

The provisions of this condition shall not operate to increase the limit of the companies' liability under this policy.

5. *Notice of occurrence, claim, or suit.* In the event of bodily injury or property damage to which this policy applies or of an occurrence which may give rise to claims therefor, written notice containing particulars sufficient to identify the insured and also reasonably obtainable information with respect to the time, place and circumstances thereof, and the names and addresses of the injured and of available witnesses, shall be given by or for the insured to ————or the companies as soon as practicable. If claim is made or suit is brought against the insured, he shall immediately forward to ———— or the companies every demand, notice, summons or other process received by him or his representative.

6. *Assistance and cooperation of the insured.* The insured shall cooperate with the companies and, upon the companies' request, attend hearings and trials and assist in making settlements, securing and giving evidence, obtaining the attendance of witnesses and in the conduct of any legal proceedings in connection with the subject matter of this insurance. The insured shall not, except at his own cost, make any payment, assume any obligation or incur any expense.

7. *Action against companies—Coverages A and C.* No action shall lie against the companies or any of them unless, as a condition precedent thereto, the insured shall have fully complied with all the terms of this policy, nor until the amount of the insured's obligation to pay shall have been finally determined either by judgment against the insured after actual trial or by written agreement of the insured, the claimant and the companies.

Any person or organization or the legal representative thereof who has secured such judgment or written agreement shall thereafter be entitled to recover under this policy to the extent of the insurance afforded by this policy. No person or organization shall have any right under this policy to join the companies or any of them as parties to any action against the insured to determine the insured's liability, nor shall the companies or any of them be impleaded by the insured or his legal representative. Bankruptcy or insolvency of the insured or of the insured's estate shall not relieve the companies of any of their obligations hereunder.

8. *Action against companies—Coverage B.* No suit or action on this policy for the recovery of any claim for property damage to which Coverage B applies shall be sustainable in any court of law or equity unless all the requirements of this policy shall have been complied with and unless commenced within two years after the occurrence resulting in such property damage.

9. *Insured's duties when loss occurs—Coverage B.* In the event of property damage to which Coverage B applies, the insured shall furnish a complete inventory of the property damage claimed, showing in detail the amount thereof. Within ninety-one days after the occurrence resulting in such property damage, unless such time is extended in writing by the companies, the insured shall render to the companies a proof of loss, signed and sworn to by the insured, stating the knowledge and belief of the insured as to the following: identification of such occurrence; the interest of the insured in the property destroyed or damaged, and the amount of each item of property damage claimed; all encumbrances on such property; and all other contracts of insurance, whether valid or not, covering any of such property. The insured shall include in the proof of loss a copy of all descriptions and schedules in all policies. Upon the companies' request, the insured shall furnish verified plans and specifications of any such property. The insured, as often as may be reasonably required, shall exhibit to any person designated by the companies any of such property, and submit to examinations under oath by any person named by the companies and subscribe the same; and, as often as may be reasonably required, shall produce for examination all books of account, records, bills, invoices and other vouchers, or certified copies thereof if originals be lost, at such reasonable time and place as may be designated by the companies or their representatives, and shall permit extracts and copies thereof to be made.

10. *Appraisal—Coverage B.* In case the insured and the companies shall fail to agree

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[1] For policies issued by Nuclear Energy Liability-Property Insurance Association the amount will be "$124,000,000," for policies issued by Mutual Atomic Energy Liability Underwriters, the amount will be "$36,000,000."

as to the amount of property damage, then, on the written demand of either, each shall select a competent and disinterested appraiser and notify the other of the appraiser selected within twenty days of such demand. The appraisers shall first select a competent and disinterested umpire and, failing for fifteen days to agree upon such umpire, then, on request of the insured or the companies, such umpire shall be selected by a judge of a court of record in the state in which the property is located. The appraisers shall then appraise each item of property damage and, failing to agree, shall submit their differences only to the umpire. An award in writing, so itemized, of any two when filed with the companies shall determine the amount of property damage. Each appraiser shall be paid by the party selecting him and the expenses of the appraisal and umpire shall be paid by the parties equally. The companies shall not be held to have waived any of their rights by any act relating to appraisal.

11. *Subrogation.* In the event of any payment under this policy, the companies shall be subrogated to all the insured's rights of recovery therefor against any person or organization, and the insured shall execute and deliver instruments and papers and do whatever else is necessary to secure such rights. Prior to knowledge of bodily injury or property damage caused by the nuclear energy hazard the insured may waive in writing any right or recovery against any person or organization, but after such knowledge the insured shall not waive or otherwise prejudice any such right of recovery.

The companies hereby waive any rights of subrogation acquired against the United States of America or any of its agencies by reason of any payment under this policy.

The companies do not relinquish, by the foregoing provisions, any right to restitution from the insured out of any recoveries made by the insured on account of a loss covered by this policy of any amounts to which the companies would be entitled had such provisions, or any of them, not been included in this policy.

12. *Other insurance.* If the insurance afforded by this policy for loss or expense is concurrent with insurance afforded for such loss or expense by a Nuclear Energy Liability Policy (Facility Form) issued to the named insured by ——— hereinafter called "concurrent insurance," the companies shall not be liable under this policy for a greater proportion of such loss or expense than the limit of liability stated in the declarations of this policy bears to the sum of such limit and the limit of liability stated in the declarations of such concurrent policy.

If the insured has other valid and collectible insurance (other than such concurrent insurance or any other nuclear energy liability insurance issued by the companies or ——— to any person or organization) applicable to loss or expense covered by this policy, the insurance afforded by this policy shall be excess insurance over such other insurance; provided, with respect to any person who is not employed at and in connection with the facility, such insurance as is afforded by this policy for bodily injury to an employee of the insured arising out of and in the course of his employment shall be primary insurance under such other insurance.

13. *Changes.* Notice to any agent or knowledge possessed by any agent or by any other person shall not effect a waiver or a change in any part of this policy or stop the companies from asserting any right under the terms of this policy; nor shall the terms of this policy be waived or changed except by endorsement issued to form a part of this policy executed by ——— on behalf of the companies.

14. *Assignment.* Assignment of interest by the named insured shall not bind the companies until their consent is endorsed hereon; if, however, the named insured shall die or be declared bankrupt or insolvent, this policy shall cover such insured's legal representative, receiver or trustee as an insured under this policy, but only with respect to his liability as such, and then only provided written notice of his appointment as legal representative, receiver or trustee is given to the companies within ten days after such appointment.

15. *Cancellation.* This policy may be canceled by the named insured by mailing to the companies and the United States Nuclear Regulatory Commission written notice stating when, not less than thirty days thereafter, such cancellation shall be effective. This policy may be canceled by the companies by mailing to the named insured at the address shown in this policy and to the United States Nuclear Regulatory Commission written notice stating when, not less than ninety days thereafter, such cancellation shall be effective; provided in the event of non-payment of premium or if the operator of the facility, as designated in the declarations, is replaced by another person or organization, this policy may be canceled by the companies by mailing to the named insured at the address shown in this policy and to the United States Nuclear Regulatory Commission written notice stating when, not less than thirty days thereafter, such cancellation shall be effective. The mailing of notice as aforesaid shall be sufficient proof of notice. The effective date and hour of cancellation stated in the notice shall become the end of the policy period. Delivery of such written notice either by the named insured or by the companies shall be equivalent to mailing.

Upon termination or cancellation of this policy, other than as of the end of December 31 in any year, the earned premium for the period this policy has been in force since the preceding December 31 shall be computed in accordance with the following provisions:

(a) If this policy is terminated, pursuant to Condition 3, by reason of the exhaustion of the limit of the companies' liability, all premium theretofore paid or payable shall be fully earned;

(b) If the named insured cancels, the earned premium for such period shall be computed in accordance with the customary annual short rate table and procedure, provided if the named insured cancels after knowledge of bodily injury or property damage caused by the nuclear energy hazard, all premiums theretofore paid or payable shall be fully earned;

(c) If the companies cancel, the earned premium for such period shall be computed pro rata.

Premium adjustment, if any, may be made either at the time cancellation is effected or as soon as practicable after cancellation becomes effective, but payment or tender of unearned premium is not a condition of cancellation.

16. *Company representation.* (a) Any notice, sworn statement or proof of loss which may be required by the provisions of this policy may be given to any one of the companies, and such notice, statement or proof of loss so given shall be valid and binding as to all companies.

(b) In any action or suit against the companies, service of process may be made on any one of them, and such service shall be deemed valid and binding service on all companies.

(c) ———— is the agent of the companies with respect to all matters pertaining to this insurance. All notices or other communications required by this policy to be given to the companies may be given to such agent, at its office at ———— with the same force and effect as if given directly to the companies. Any requests, demands or agreements made by such agent shall be deemed to have been made directly by the companies.

17. *Authorization of named insured.* Except with respect to compliance with the obligations imposed on the insured by Conditions 5, 6, 7, 8, 9, 10 and 11 of this policy, the named insured is authorized to act for every other insured in all matters pertaining to this insurance.

18. *Changes in subscribing companies and in their proportionate liability.* By acceptance of this policy the named insured agrees that the members of ———— liable under this policy, and the proportionate liability of each such member, may change from year to year, and further agrees that regardless of such changes:

(1) Each company subscribing this policy upon its issuance shall be liable only for its stated proportion of any obligation assumed or expense incurred under this policy because of bodily injury or property damage caused, during the period from the effective date of this policy to the close of December 31 next following, by the nuclear energy hazard; for each subsequent calendar year beginning January 1 next following the effective date of this policy, the subscribing companies and the proportionate liability of each such company shall be stated in an endorsement issued to form a part of this policy, duly executed and attested by the ———— of ———————— on behalf of each such company, and mailed or delivered to the named insured;

(2) This policy shall remain continuously in effect from the effective date stated in the declarations until terminated in accordance with Condition 3 or Condition 15;

(3) Neither the liability of any company nor the limit of liability stated in the declarations shall be cumulative from year to year.

19. *Declarations.* By acceptance of this policy the named insured agrees that the statements in the declarations are the agreements and representations of the named insured, that this policy is issued in reliance upon the truth of such representations and that this policy embodies all agreements between the named insured and the companies or any of their agents relating to this insurance.

In Witness Whereof, each of the subscribing companies has caused this policy to be executed and attested on its behalf by the ———of ———————— and duly countersigned on the declarations page by an authorized representative.

For the subscribing companies.

By ————————

Subscribing Companies Proportion of 100%

NUCLEAR ENERGY LIABILITY POLICY NO.
——— (FACILITY FORM)

DECLARATIONS

Item 1. Named Insured ————.
Address ————————.
(No. Street Town or City State)

Item 2. Policy Period: Beginning at 12:01 a.m. on the —— day of ————, 19—, and continuing through the effective date of the cancellation or termination of this policy, standard time at the address of the named insured as stated herein.

Item 3. Description of the Facility:
Location ————————

____

____

____

____

Type ______________________________

____

____

The Operator of the facility is ———.

Item 4. The limit of the companies' liability is $——— subject to all the terms of this policy having reference thereto.

Item 5. Advance Premium $———.

Item 6. These declarations and the schedules forming a part hereof give a complete description of the facility, insofar as it relates to the nuclear energy hazard, except as noted ______________________________

____

____

____

Date of Issue —————, 19—.
Countersigned by ______________________________
(Authorized representative)

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

AMENDMENT OF TRANSPORTATION COVERAGE (INDEMNIFIED NUCLEAR FACILITY)

It is agreed that the definition of *insured shipment* in Insuring Agreement III is amended to read: *insured shipment* means a shipment of source material, special nuclear material, spent fuel or waste, herein called *material*, (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

Effective date of this endorsement —— to form a part of Policy No. ———.
Issued to ______________________________
Date of Issue ______________________________.

For the subscribing companies.

____
By ______________________________
Countersigned by ______________________________
Endorsement No. —————.

OPTIONAL AMENDATORY ENDORSEMENT

(Facility Form)

It is agreed that:

I. The first sentence of the definition of nuclear facility is amended to read:
nuclear facility means *the facility* as defined in any Nuclear Energy Liability Policy (Facility Form) issued by ——— or by ————.

II. The definition of *indemnified nuclear facility* is replaced by the following:
indemnified nuclear facility means
(1) *the facility* as defined in any Nuclear Energy Liability Policy (Facility Form) issued by ——— or by ——— or
(2) any other nuclear facility,

if financial protection is required pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof; with respect to any activities or operations conducted thereat:

III. Condition 4 is replaced by the following:

Limitation of liability; common occurrence. Any occurrence or series of occurrences resulting in bodily injury or property damage arising out of the radioactive, toxic, explosive, or other hazardous properties of

(a) nuclear material discharged or dispersed from the facility over a period of days, weeks, months or longer and also arising out of such properties of other nuclear material so discharged or dispersed from one or more other nuclear facilities insured under any Nuclear Energy Liability Policy (Facility Form) issued by ————— or,

(b) source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under this policy and also arising out of such properties of other source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under one or more other Nuclear Energy Liability Policies (Facility Form) issued by —————.

shall be deemed to be a common occurrence resulting in bodily injury or property damage caused by the nuclear energy hazard.

With respect to such bodily injury and property damage (1) the total aggregate liability of the members of ———, under all Nuclear Energy Liability Policies (Facility Form), including this policy, applicable to such common occurrence shall be the sum of the limits of liability of all such policies, the limit of liability of each such policy being as determined by Condition 3 thereof, but in no event shall such total aggregate liability of such members exceed $———;[1]

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[1] For policies issued by Nuclear Energy Liability-Property Insurance Association the

Continued

(2) the total liability of the companies under this policy shall not exceed that proportion of the total aggregate liability of the members of ———, as stated in clause (1) above, which (a) the limit of liability of this policy, as determined by Condition 3, bears to (b) the sum of the limits of liability of all such policies issued by such members the limit of liability of each such policy being as determined by Condition 3 thereof.

The provisions of this condition shall not operate to increase the limit of the companies' liability under this policy.

IV. The second paragraph of Condition 12 *Other Insurance* is amended to read:

If the insured has other valid and collectable insurance (other than such concurrent insurance or any other nuclear energy liability insurance issued by ——— or to any person or organization) applicable to loss or expense covered by this policy the insurance afforded by this policy shall be excess insurance over such other insurance; provided, with respect to any person who is not employed at and in connection with the facility, such insurance as is afforded by this policy for bodily injury to an employee of the insured arising out of and in the course of his employment shall be primary insurance under such other insurance.

Nuclear Energy Liability Policy

(Facility Form)

Restoration of Limit of Liability Endorsement

It is agreed that:

1. Payments made by the companies under this policy have reduced the limit of the companies' liability, stated in Item 4 of the declarations, to $———.

2. Such reduced limit is restored to the amount stated in Item 4 of the declarations. Such restored limit applies to obligations assumed or expenses incurred because of bodily injury or property damage caused during the period from the effective date of this endorsement to the termination of the policy, by the nuclear energy hazard.

NOTE: When the reduction of the limit of liability results from a clearly identifiable nuclear event and restoration is offered retroactive to the effective date of the policy for claims other than those resulting from said event, above paragraph 2 will be replaced by the following:

2. Such reduced limit is restored to the amount stated in Item 4 of the declarations, except with respect to bodily injury or property damage resulting from (describe nuclear event).

3. The reduced limit of liability stated in paragraph 1 above, and the limit of liability stated in Item 4 of the declarations, as restored by this endorsement, shall not be cumulative; and each payment made by the companies after the effective date of this endorsement for any loss or expense covered by the policy shall reduce by the amount of such payment both the reduced limit of liability stated in paragraph 1 above and the limit of liability stated in Item 4 of the declarations, as restored by this endorsement, regardless of which limit of liability applies with respect to bodily injury or property damage out of which such loss or expense arises.

Effective date of this endorsement —— to form a part of Policy No. ———

Issued to ————.

Date of Issue ————.

For the subscribing companies

————————

By ————

Countersigned by ————————

Endorsement No. ——.

Nuclear Energy Liability Policy

(Facility Form)

Amendatory Endorsement

This policy does not apply to bodily injury or property damage with respect to which the insured is entitled to indemnity from the United States Nuclear Regulatory Commission under the provisions of Indemnity Agreement No. —— between the United States Nuclear Regulatory Commission and ————, dated ————, as now in effect or as hereafter amended.

* * * * *

Effective date of this endorsement to form a part of Policy No.

Issued to ————.

Date of issue ————.

For the subscribing companies ———

————————

By ————————

Countersigned by ————————

Endorsement No. ——.

Nuclear Energy Liability Policy

(Facility Form)

Waiver of Defenses Endorsement

(*Extraordinary Nuclear Occurrence*)

The named insured, acting for himself and every other insured under the policy,

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amount will be "$124,000,000," for policies issued by Mutual Atomic Energy Liability Underwriters, the amount will be "$36,000,000."

and the members of ——————————— agree as follows:

1. With respect to any extraordinary nuclear occurrence to which the policy applies as proof of financial protection and which—

(a) Arises out of or results from or occurs in the course of the construction, possession, or operation of the facility, or

(b) Arises out of or results from or occurs in the course of the transportation of nuclear material to or from the facility, the insureds and the companies agree to waive

(1) Any issue or defense as to the conduct of the claimant or the fault of the insureds, including, but not limited to:

(i) Negligence,

(ii) Contributory negligence,

(iii) Assumption of risk, and

(iv) Unforeseeable intervening causes whether involving the conduct of a third person or an act of God,

(2) Any issue or defense as to charitable or governmental immunity, and

(3) Any issue or defense based on any statue of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his bodily injury or property damage and the cause thereof, but in no event more than 10 years after the date of the nuclear incident.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action.

2. The waivers set forth in paragraph 1 above do not apply to

(a) Bodily injury or property damage which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(b) Bodily injury sustained by any claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

(c) Any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law.

3. The waivers set forth in paragraph 1 above shall be effective only with respect to bodily injury or property damage to which the policy applies under its terms other than this endorsement.

Such waivers shall not apply to, or prejudice the prosecution or defense of any claim or portion of claim which is not within the protection afforded under—

(1) The provisions of the policy applicable to the financial protection required of the named insured,

(2) The agreement of indemnification between the named insured and the Nuclear Regulatory Commission made pursuant to section 170 of the Atomic Energy Act of 1954, as amended, and

(3) The limit of liability provisions of subsection 170 e. of the Atomic Energy Act of 1954, as amended.

Such waivers shall not preclude a defense based upon the failure of the claimant to take reasonable steps to mitigate damages.

4. Subject to all of the limitations stated in this endorsement and in the Atomic Energy Act of 1954, as amended, the waivers set forth in paragraph 1 above shall be judicially enforceable in accordance with their terms against any insured in an action to recover damages because of bodily injury or property damage to which the policy applies as proof of financial protection.

5. As used herein:

Extraordinary nuclear occurrence means an event which the Nuclear Regulatory Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended, *financial protection* and *nuclear incident* have the meanings given them in the Atomic Energy Act of 1954, as amended.

Claimant means the person or organization actually sustaining the bodily injury or property damage and also includes his assignees, legal representatives and other persons or organizations entitled to bring an action for damages on account of such injury or damage.

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

AMENDATORY ENDORSEMENT

(*Application of Policy*)

It is agreed that insuring agreement IV of the policy, captioned *Application of Policy* is amended to read as follows: Application of Policy. This policy applies only to bodily injury or property damage: (1) Which is caused during the policy period by the nuclear energy hazard, and (2) which is discovered and for which written claim is made against the insured, not later than 10 years after the end of the policy period.

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

WAIVER OF DEFENSE ENDORSEMENT

(*Extraordinary Nuclear Occurrence*)

The named insured, acting for himself and every other insured under the policy, and the members of ______________________ agree as follows:

1. With respect to any extraordinary nuclear occurrence to which the policy applies as proof of financial protection and which

(a) Arises out of or results from or occurs in the course the construction, possession, or operation of the facility, or

(b) Arises out of or results from or occurs in the course of the transportation of nuclear material to or from the facility.

the insured and the companies agree to waive.

(1) Any issue or defense as to the conduct of the claimant or the fault of the insureds, including but not limited to:

(i) Negligence,

(ii) Contributory negligence,

(iii) Assumption of risk, and

(iv) Unforeseeable intervening causes, whether involving the conduct of a third person, or an act of God,

(2) Any issue or defense as to charitable or governmental immunity, and

(3) Any issue or defense based on any statute of limitations if suit is instituted within three (3) years from the date on which the claimant first knew, or reasonably could have known, of his bodily injury or property damage and the cause thereof, but in no event more than twenty (20) years after the date of the nuclear incident.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action.

2. The waivers set forth in paragraph 1. above do not apply to

(a) Bodily injury or property damage which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(b) Bodily injury sustained by any claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

(c) Any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law.

3. The waivers set forth in paragraph 1. above shall be effective only with respect to bodily injury or property damage to which the policy applies under its terms other than this endorsement; provided, however, that with respect to bodily injury or property damage resulting from an extraordinary nuclear occurrence. Insuring Agreement IV, "Application of Policy," shall not operate to bar coverage for bodily injury or property damage (a) which is caused during the policy period by the nuclear energy hazard and (b) which is discovered and for which written claim is made against the insured not later than twenty (20) years after the date of the extraordinary nuclear occurrence.

Such waivers shall not apply to, or prejudice the prosecution or defense of any claim or portion of claim which is not within the protection afforded under

(a) The provisions of the policy applicable to the financial protection required of the named insured;

(b) The agreement of indemnification between the named insured and the Nuclear Regulatory Commission made pursuant to section 170 of the Atomic Energy Act of 1954, as amended; and

(c) The limit of liability provisions of Subsection 170e. of the Atomic Energy Act of 1954, as amended.

Such waivers shall not preclude a defense based upon the failure of the claimant to take reasonable steps to mitigate damages.

4. Subject to all of the limitations stated in this endorsement and in the Atomic Energy Act of 1954, as amended, the waivers set forth in paragraph 1. above shall be judicially enforceable in accordance with their terms against any insured in an action to recover damages because of bodily injury or property damage to which the policy applies as proof of financial protection.

5. As used herein:

Extruordinary nuclear occurrence means an event which the Nuclear Regulatory Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

Financial protection and *nuclear incident* have the meanings given them in the Atomic Energy Act of 1954, as amended.

Claimant means the person or organization actually sustaining the bodily injury or property damage and also includes his assignees, legal representatives and other persons or organizations entitled to bring an action for damages on account of such injury or damage.

Effective date of this endorsement ______________________ to form a part of

Policy No. ————.

12:01 A.M. Standard Time
Issued to ————————.
Date of issue ————.
Endorsement No. ————.
For the subscribing companies:

By ————————,
General Manager
Countersigned by ————————

SUPPLEMENTARY ENDORSEMENT WAIVER OF DEFENSES

REACTOR CONSTRUCTION AT THE FACILITY

It is agreed that in construing the application of paragraph 2.(b) of the Waiver of Defenses Endorsement (NE-33a) with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Nuclear Regulatory Commission shall not be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility and

(2) No operating license has been issued by the Nuclear Regulatory Commission with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use or transfer of nuclear material at the facility.

Effective date of this endorsement ———————— to form a part of Policy No. ————.

12:01 A.M. Standard Time
Issued to ————————.
Date of issue ————.
Endorsement No ————.
For the subscribing companies:

By ————————.
General Manager
Countersigned by ————————.

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

AMENDMENT OF DEFINITION OF *Nuclear Energy Hazard* (Indemnified Nuclear Facility)

It is agreed that: 1. Solely with respect to an *insured shipment* to which the policy applies as proof of financial protection required by the Nuclear Regulatory Commission, subdivision (2) of the definition of *nuclear energy hazard* is amended to read:

(2) The nuclear material is in an insured shipment which is away from any other nuclear facility and is in the course of transportation, including handling and temporary storage incidental thereto, within

(a) The territorial limits of the United States of America, its territories or possessions, Puerto Rico or the Canal Zone; or

(b) International waters or airspace, provided that the nuclear material is in the course of transportation between two points located within the territorial limits described in (a) above and there are no deviations in the course of the transportation for the purpose of going to any other country, state or nation, except a deviation in the course of said transportation for the purpose of going to or returning from a port or place of refuge as the result of an emergency.

2. As used herein, *financial protection* has the meaning given it in the Atomic Energy Act of 1954, as amended.

INSTRUCTIONS—This form is to be used to modify all Nuclear Energy Liability Facility Forms in force on January 1, 1977 which were issued to become effective prior to January 1, 1977 and which are offered by the named insured as proof of financial protection being maintained as required by the Atomic Energy Act of 1954, as amended.

Effective date of this Endorsement ———————— To form a part of Policy No. ————.

12:01 A.M. Standard Time
Issued to ————————
Date of issue ————.
Endorsement No. ————.
For the subscribing companies:
By ————————,
General Manager
Countersigned by ————————

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

AMENDMENT OF DEFINITIONS OF *Nuclear Energy Hazard* and *Insured Shipment* (Indemnified Nuclear Facility)

It is agreed that: I. In Insuring Agreement III, *DEFINITIONS*

A. Solely with respect to an *insured shipment* to which this policy applies as proof of financial protection required by the Nuclear Regulatory Commission, Subdivision (2) of the definition of *nuclear energy hazard* is amended to read:

(2) The nuclear material is in an insured shipment which is away from any other nuclear facility and is in the course of trans-

best copy available

portation, including the handling and temporary storage incidental thereto, within

(a) The territorial limits of the United States of America, its territories or possessions, Puerto Rico or the Canal Zone; or

(b) International waters or airspace, provided that the nuclear material is in the course of transportation between two points located within the territorial limits described in (a) above and there are no deviations in the course of the transportation for the purpose of going to any other country, state or nation, except for a deviation in the course of said transportation for the purpose of going to or returning from a port or place of refuge as the result of an emergency.

B. The definition of *insured shipment* is replaced with the following:

Insured shipment means a shipment of source material, special nuclear material, spent fuel or waste, herein called *material*, (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

II. As used herein, *financial protection* has the meaning given it in the Atomic Energy Act of 1954, as amended.

INSTRUCTIONS—This form is to be used to modify all Nuclear Energy Liability Facility Forms which are issued to become effective on or after January 1, 1977 and which are offered by the named insured as proof of financial protection being maintained as required by the Atomic Energy Act of 1954, as amended.

Effective date of this endorsement —— ———— To form a part of Policy No. ————.

12:01 A.M. standard time

Issued to ————————.

Date of issue —————.

Endorsement No. —————.

For the subscribing companies:

By ————————,

General Manager.

Countersigned by ————————.

NE-50 (1/1/80), AMENDATORY ENDORSEMENT

(*Indemnified Nuclear Facility*)

It is agreed that:

I. In Insuring Agreement III:

DEFINITIONS

A. The first sentence of the definition of *nuclear facility* is amended to read: *nuclear facility* means *the facility* as defined in any Nuclear Energy Liability Policy (Facility Form) issued by Nuclear Energy Liability Insurance Association or by Mutual Atomic Energy Liability Underwriters.

B. The definition of *indemnified nuclear facility* is replaced by the following: *indemnified nuclear facility* means

(1) *the facility* as defined in any Nuclear Energy Liability Policy (Facility Form) issued by Nuclear Energy Liability Insurance Association or by Mutual Atomic Energy Liability Underwriters, or

(2) any other nuclear facility, if financial protection is required pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof, with respect to any activities or operations conducted thereat;

C. Solely with respect to an *insured shipment* to which this policy applies as proof of financial protection required by the Nuclear Regulatory Commission. Subdivision (2) of the definition of *nuclear energy hazard* is amended to read:

(2) The nuclear material is in an insured shipment which is away from any other nuclear facility and is in the course of transportation, including the handling and temporary storage incidental thereto, within

(a) The territorial limits of the United States of America, its territories or possessions, or Puerto Rico; or Canal Zone; or

(b) International waters or airspace, provided that the nuclear material is in the course of transportation between two points located within the territorial limits described in (a) above and there are no deviations in the course of the transportation for the purpose of going to any other country, state or nation, except a deviation in the course of said transportation for the purpose of going to or returning from a port or place of refuge as the result of an emergency.

D. The definition of *insured shipment* is replaced with the following:

insured shipment means shipment of source material, special nuclear material, spent fuel or waste, or tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, herein called *material*, (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

E. As used herein, *financial protection* has the meaning given it in the Atomic Energy Act of 1954, as amended.

II. Insuring Agreement IV is replaced by the following:

IV. APPLICATION OF POLICY. This policy applies only to bodily injury or property damage (1) which is caused during the policy period by the nuclear energy hazard and (2) which is discovered and for which written claim is made against the insured, not later than ten years after the end of the policy period.

III. Condition 2 is replaced by the following:

2. INSPECTION: SUSPENSION. The companies shall at any time be permitted but not obligated to inspect the facility and all operations relating thereto and to examine the insured's books and records as far as they relate to the subject of this insurance and any property insurance afforded the insured through American Nuclear Insurers. If a representative of the companies discovers a condition which he believes to be unduly dangerous with respect to the nuclear energy hazard, a representative of the companies may request that such condition be corrected without delay. In the event of noncompliance with such request, a representative of the companies may, by notice to the named insured, to any other person or organization considered by the companies to be responsible for the continuation of such dangerous condition, and to the United States Nuclear Regulatory Commission, suspend this insurance with respect to named insured and such other person or organization effective 12:00 midnight of the next business day of such Commission following the date that such Commission receives such notice. The period of such suspension shall terminate as of the time stated in a written notice from the companies to the named insured and to each such person or organization that such condition has been corrected.

Neither the right to make such inspections and examinations nor the making thereof nor any advice or report resulting therefrom shall constitute an undertaking, on behalf of or for the benefit of the insured or others, to determine or warrant that such facility or operations are safe or healthful, or are in compliance with any law, rule or regulation. In consideration of the issuance or continuation of this policy, the insured agrees that neither the companies nor any pesons or organizations making such inspections or exminations on their behalf shall be liable with respect to injury to or destruction of property at the facility, or any consequential loss or expense resulting therefrom, or any loss resulting from interruption of business or manufacture, arising out of the making of or a failure to make any such inspection or examination, or any report thereon, or any such suspension of insurance, but this provision does not limit the contractual obligations of the companies under this policy or any policy affording the insured property insurance through American Nuclear Insurers.

IV. Condition 4 is replaced by the following:

4. LIMITATION OF LIABILITY: COMMON OCCURRENCE. Any occurrence or series of occurrences resulting in bodily injury or property damage arising out of the radioactive, toxic, explosive or other hazardous properties of

(a) nuclear material discharged or dispersed from the facility over a period of days, weeks, months or longer and also arising out of the properties of other nuclear material so discharged or dispersed from one or more other nuclear facilities insured under any Nuclear Energy Liability Policy (Facility Form) issued by Nuclear Energy Liability Insurance Association, or

(b) source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under this policy and also arising out of such properties of other source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under one or more other Nuclear Energy Liability Policies (Facility Form) issued by Nuclear Energy Liability Insurance Association, shall be deemed to be a common occurrence resulting in bodily injury or property damage caused by the nuclear energy hazard.

With respect to such bodily injury and property damage (1) the total aggregate liability of the members of the Nuclear Energy Liability Insurance Association under all Nuclear Energy Liability Policies (Facility Form), including this policy, applicable to such common occurrence shall be the sum of the limits of liability of all such policies, the limit of liability of each such policy being as determined by Condition 3 thereof, but in no event shall such total aggregate liability of such members exceed $124,000,000; (2) the total liability of the companies under this policy shall not exceed that proportion of the total aggregate liability of the members of Nuclear Energy Liability Insurance Association, as stated in clause (1) above, which (a) the limit of liability of this policy, as determined by Condition 3, bears to (b) the sum of the limits of liability of all such policies issued by such members, the limit of liability of each such policy being as determined by Condition 3 thereof.

The provisions of this condition shall not operate to increase the limit of the companies' liability under this policy.

V. The second paragraph of Condition 12, *Other Insurance*, is amended to read:

If the insured has other valid and collectible insurance (other than such concurrent insurance or any other nuclear energy liability insurance issued by Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters to any person or organization) applicable to loss or expense covered by this policy, the insurance afforded by this policy shall be excess insurance over such other insurance; provided, with respect to any person who is not employed at and in connection with the facility, such insurance as is afforded by this policy for bodily injury to an employee of the insured arising out of and in the course of his employment shall be primary insurance under such other insurance.

VI. Paragraph (c) of Condition 16, *Company Representation*, is amended to read:

(c) Nuclear Energy Liability Insurance Association is the agent of the companies with respect to all matters pertaining to this insurance. All notices or other communications required by this policy to be given to the companies may be given to such agent, at its office at the Exchange, Suite 245, 270 Farmington Avenue, Farmington, Connecticut 06032, with the same force and effect as if given directly to the companies. Any requests, demand or agreements made by such agent shall be deemed to have been made directly by the companies.

Effective Date of this Endorsement ——— 12:01 a.m. Standard Time to form a part of policy No. ———.

Issued to ——— For the subscribing companies.

Date of Issue ———.

By ——— General Manager.

Endorsement No. ———

NE-50 (1/1/81)

NE-51 (1/1/81)—AMENDMENT OF DEFINITION OF CONDITION 2 *Inspection; Suspension* and *Insured Shipment*

(Indemnified Nuclear Facility)

It is agreed that:

(1) Condition 2 *Inspection; Suspension* is replaced by the following:

2. Inspection; Suspension. The companies shall at any time be permitted but not obligated to inspect the facility and all operations relating thereto and to examine the insured's books and records as far as they relate to the subject of this insurance and any property insurance afforded the insured through American Nuclear Insurers. If a representative of the companies discovers a condition which he believes to be unduly dangerous with respect to the nuclear energy hazard, a representative of the companies may request that such conditions be corrected without delay. In the event of noncompliance with such requests, a representative of the companies may, by notice to the named insured, to any other person or organization considered by the companies to be responsible for the continuation of such dangerous condition, and to the United States Nuclear Regulatory Commission, suspend this insurance with respect to the named insured and such other person or organization effective 12:00 midnight of the next business day of such Commission following the date that such Commission receives such notice. The period of such suspension shall terminate as of the time stated in a written notice from the companies to the named insured and to each such person or organization that such condition has been corrected.

Neither the right to make such inspections and examinations nor the making thereof nor advice or report resulting therefrom shall constitute an undertaking, on behalf of or for the benefit of the insured or others, to determine or warrant that such facility or operations are safe or healthful, or are in compliance with any law, rule or regulation. In consideration of the issuance or continuation of this policy, the insured agrees that neither the companies nor any persons or organizations making such inspections or examinations on their behalf shall be liable with respect to injury to or destruction of property at the facility, or any consequential loss or expense resulting therefrom, or any loss resulting from interruption of business or manufacture, arising out of the making of or a failure to make any such inspection or examination, or any report thereon, or any such suspension of insurance, but this provision does not limit the contractual obligations of the companies under this policy or any policy affording the insured property insurance through American Nuclear Insurers.

(2) The definition of *insured shipment* in Insuring Agreement III, *Definitions*, is replaced by the following: *insured shipment* means a shipment of source material, special nuclear material, spent fuel, waste, or tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content herein called *material*, (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

Effective Date of this Endorsement ——— 12:01 a.m. Standard Time to form a part of Policy No. ———

Issued to ——— For the subscribing companies.

Date of Issue ———.

By ——— General Manager.

Endorsement No. ———

NE-51 (1/1/81)

AMENDMENT OF COVERAGE ENDORSEMENT FOR WORKERS CLAIMS

(Facility Form)

NE-64(1/1/88)

Preamble

1. The insurance and rating plan presently used by Nuclear Energy Liability Insurance Association (*NELIA*) and Mutual Atomic Energy Liability Underwriters (*MAELU*) do not make a distinction between workers claims arising from catastrophic events and those arising from lesser events;

2. NELIA and MAELU believe that the lack of such a distinction will adversely affect their ability to continue to attract from world markets very large amounts of nuclear energy liability insurance for the nuclear industry;

3. NELIA and MAELU want to avoid this potential loss of capacity and to continue to provide nuclear energy liability insurance for workers claims. Accordingly NELIA and MAELU desire to restructure their present insurance programs, including this policy, effective January 1, 1988.

Now, Therefore, the Named Insured and the companies do hereby agree as follows:

1. Definitions

When used in reference to this endorsement:

This policy means the policy of which this endorsement forms a part;

Nuclear related employment means all work performed at one or more than one nuclear facility in the United States of America or in connection with the transportation of nuclear material to or from any such facility. All of a worker's nuclear related employment shall be considered as having begun on the first day of such employment, regardless of the number of employers involved or interruptions in such employment;

Worker refers to a person who is or was engaged in nuclear related employment;

Workers claims means claims for damages because of bodily injury to a worker caused by the radioactive, toxic, explosive or other hazardous properties of nuclear material and arising out of or in the course of the worker's nuclear related employment;

Extraordinary nuclear occurrence means an event which the United States Nuclear Regulatory Commission has determined to be an *extraordinary nuclear occurrence* as defined in the Atomic Energy Act of 1954, or in any law amendatory thereof.

2. Application of This Endorsement

This endorsement applies only to such insurance as is afforded by this policy for workers claims which do not arise in whole or in part out of an extraordinary nuclear occurrence.

3. Exclusion of New Workers Claims

This policy does not apply to bodily injury to a worker which arises in whole or in part out of nuclear related employment that begins on or after January 1, 1988.

4. Application of Policy To Workers Claims Not Excluded

With respect to such insurance as is afforded by this policy for workers claims which are not excluded, Insuring Agreement IV does not apply and the following Insuring Agreement IV-A does apply:

IV-A Application of Policy to Workers Claims. This policy applies only to bodily injury (1) which is caused during the policy period by the nuclear energy hazard and (2) which is discovered and for which written claim is made against the insured not later than the close of December 31, 1997.

5. Availability of Supplemental Insurance

NELIA and MAELU are offering to make insurance under one or more Master Worker Policies available to all holders of Nuclear Energy Liability Policies (Facility Form). *This offer is contingent on sufficient support from policy holders, and may be withdrawn or modified by Nelia or Maelu as they deem necessary or appropriate.*

The Master Workers Policies will provide, under their separate terms and conditions, coverage for new workers claims. Premiums will be subject to a separate Industry Retrospective Rating Plan.

Coverage under the new master worker policies is not automatic. A written request must be submitted to Nelia or Maelu through regular market channels.

It is understood and agreed that all of the provisions of this endorsement shall remain in full force and effect without regard to this section 5, and without regard to whether or not the Named Insureds become insureds under the Master Worker Policies, or whether or not NELIA or MAELU terminate such policies or withdraw or modify their offer to underwrite such policies.

Executed for the companies

Date ____________________

By ____________________

(Signature or Authorized Officer)

____

(Print or Type Name and Title of Officer)

Executed for the Named Insured

____

(Named Insured—Type or Print)

Date ____________________

By ____________________

(Signature of Authorized Officer)

____

(Print or Type Name and Title of Officer)

Effective Date of this Endorsement

____

12:01 a.m. Standard Time

To form a part of Policy No. ______________

Issued to ______________________

Date of Issue ______________________

For the subscribing companies

By ______________________________

General Manager

Endorsement No.

Countersigned by ______________________

AMENDMENT OF COVERAGE ENDORSEMENT FOR WORKERS CLAIMS (FACILITY FORM) NE-66(1/1/88)

It is agreed that:

1. Definitions

When used in reference to this endorsement:

This policy means the policy of which this endorsement forms a part;

Nuclear related employment means all work performed at one or more than one nuclear facility in the United States of America or in connection with the transportation of nuclear material to or from any such facility. All of a worker's nuclear related employment shall be considered as having begun on the first day of such employment, regardless of the number of employers involved or interruptions in such employment;

Worker refers to a person who is or was engaged in nuclear related employment;

Workers claims means claims for damages because of bodily injury to a worker caused by the radioactive, toxic, explosive or other hazardous properties of nuclear material and arising out of or in the course of the worker's nuclear related employment;

Extraordinary nuclear occurrence means an event which the United States Nuclear Regulatory Commission has determined to be an *extraordinary nuclear occurrence* as defined in the Atomic Energy Act of 1954, or in any law amendatory thereof.

2. Application of This Endorsement

This endorsement applies only to such insurance as is afforded by this policy for workers claims which do not arise in whole or in part out of an extraordinary nuclear occurrence.

3. Exclusion of New Workers Claims

This policy does not apply to bodily injury to a worker which arises in whole or in part out of nuclear related employment that begins on or after January 1, 1988.

4. Application of Policy To Workers Claims Not Excluded

With respect to such insurance as is afforded by this policy for workers claims which are not excluded, Insuring Agreement IV does not apply and the following Insuring Agreement IV-A does apply:

IV-A APPLICATION OF POLICY TO WORKERS CLAIMS

This policy applies only to bodily injury (1) which is caused during the policy period by the nuclear energy hazard and (2) which is discovered and for which written claim is made against the insured not later that the close of December 31, 1997.

5. Availability of Supplemental Insurance

NELIA and MAELU are offering to make insurance under one or more Master Worker Policies available to all holders of Nuclear Energy Liability Policies (Facility Form). *This offer is contingent on sufficient support from policyholders, and may be withdrawn or modified by NELIA or MAELU as they deem necessary or appropriate.*

The Master Worker Policies will provide, under their separate terms and conditions, coverage for new workers claims. Premiums will be subject to a separate Industry Retrospective Rating Plan.

Coverage under the new master worker policies is not automatic. A written request must be submitted to NELIA or MAELU through regular market channels.

It is understood and agreed that all of the provisions of this endorsement shall remain in full force and effect without regard to this Section 5, and without regard to whether or not the Named Insureds become insureds under the Master Worker Policies, or whether or not NELIA or MAELU terminate such policies or withdraw or modify their offer to underwrite such policies.

Explanation of Use of This Endorsement: This endorsement is a mandatory endorsement which is to be attached to new Facility Form Policies issued on or after January 1, 1988.

Effective Date of this Endorsement

____

12:01 a.m. Standard Time

To form a part of Policy No. ______________

Issued to ______________________

Date of Issue ______________________

For the subscribing companies

By ______________________________

General Manager

Endorsement No.

Countersigned by ______________________

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

NUCLEAR ENERGY LIABILITY POLICY

Facility Worker Form, herein called Master Worker Policy, NMWP-1(1/1/88)

The undersigned members of Nuclear Energy Liability Insurance Association, hereinafter called the *companies*, each itself severally and not jointly, and in the respective proportion hereinafter set forth, agree with the insureds named in Item 1 of the Declarations of each Certificate, hereinafter called the *Named Insureds*, in consideration of the payment of the premium, and subject to all of the provisions of the applicable Certificate and of this policy, as follows:

I—Relation Between the Master Worker Policy and Certificates

No insurance is provided by this policy except through a Certificate issued to form a part hereof. The insurance then applies separately to the persons and organizations who are defined in Section IV as insureds under each such Certificate, except with respect to the Amount of Insurance Available.

The Amount of Insurance Available through such a Certificate to any person or organization who is an insured thereunder is limited as provided in Section VIII of this policy.

II—Definitions

When used in reference to this policy:

Bodily injury means bodily injury, sickness or disease, including death resulting therefrom;

Byproduct material has the meaning given in the Atomic Energy Act of 1954, or in any law amendatory thereof;

Certificate, unless qualified, refers to a Certificate of Insurance (including Declarations and endorsements forming a part thereof) issued to form a part of this policy or of a MAELU Policy;

Claims costs means, with reference to claims or suits the companies have the right and duty to defend under this policy;

(1) Cost taxed against the insured in such suits and interest on any judgments therein;

(2) Premiums on appeal bonds and on bonds to release attachments in such suits (but the companies have no obligation to apply for or furnish such bonds;

(3) Reasonable expenses, other than loss of earnings, incurred by the insured at the companies' request;

(4) Payments for expenses incurred in the investigation, negotiation, settlement and defense of such claims or suits, including, but not limited to, the cost of such allocated claims services by employees of the companies, fees and expenses of independent adjusters, attorneys' fees and disbursements, expenses for expert testimony, examination, x-ray or autopsy or medical expenses of any kind;

(5) Payments for expenses incurred by the companies in investigating an occurrence resulting in bodily injury or in minimizing its effects;

Discovery period means the period defined in Section VI B hereof;

Extraordinary nuclear occurrence means an event which the United States Nuclear Regulatory Commission has determined to be an *extraordinary nuclear occurrence* as defined in the Atomic Energy Act of 1954, or in any law amendatory thereof;

Insured contract means that part of a contract or agreement made prior to bodily injury to a new worker under which the insured assumes the tort liability of a third person to pay damages because of such bodily injury. *Tort liability* means a liability that would be imposed by law on the third person in the absence of an express assumption of liability by the third person;

Insured facility means a facility with respect to which insurance is provided through a Certificate;

Insured shipment means a shipment of source material, special nuclear material, spent fuel or waste (herein called *material*):

(1) To the facility from any location other than an insured facility, but only if the transportation of the material is not by predetermination to be interrupted by removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation; or

(2) From the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation;

MAELU means Mutual Atomic Energy Liability Underwriters;

MAELU Policy means a Nuclear Energy Liability Policy (Facility Worker Form) written by members of MAELU;

NELIA means Nuclear Energy Liability Insurance Association;

New worker refers to a person who is or was engaged in nuclear related employment that begins on or after January 1, 1988;

New worker's claim means a claim for damages because of bodily injury to a new worker caused by the radioactive, toxic, explosive or other hazardous properties of nuclear material and arising out of or in the course of the new worker's nuclear related employment;

Non-ratable incurred losses has the meaning given in Attachment 1 to this policy;

Nuclear energy hazard means the radioactive, toxic, explosive or other hazardous properties of nuclear material which is:

(1) At the facility as described in the applicable Certificate issued to form a part of this policy or has been discharged or dispersed therefrom without intent to relinquish possession of custody thereof to any other person or organization; or

(2) In an insured shipment that is away from any other insured nuclear facility and is in the course of transportation, including handling and temporary storage incidental thereto within:

(a) The territorial limits of the United States of America, its territories or possessions or Puerto Rico; or

(b) International waters or airspace, provided that:

(i) The nuclear material is in the course of transportation between two points located within the territorial limits described in (a) above; and

(ii) There are no deviations in the course of the transportation for the purpose of going to any other country, state or nation, except to a port or place of refuge in an emergency;

Nuclear facility means any of the following and includes the site on which any of them is located, all operations conducted on such site and all premises used for such operations:

(1) The facility as described in any Certificate;

(2) Any nuclear reactor;

(3) Any equipment or device designed or used for:

(a) Separating the isotopes of uranium or plutonium;

(b) Processing or utilizing spent fuel; or

(c) Handling, processing or packaging waste;

(4) Any equipment or device used for the processing, fabricating or alloying of special nuclear material if at any time the total amount of such material in the custody of the insured at the premises where such equipment of device is located consists of or contains more than 25 grams of plutonium or uranium 233 or any combination thereof, or more than 250 grams of uranium 235;

(5) Any structure, basin, excavation, premises or place prepared or used for the storage or disposal of waste;

Nuclear material means source material, special nuclear material or byproduct material;

Nuclear reactor means any apparatus designed or used to sustain nuclear fission in a self-supporting chain reaction or to contain a critical mass of fissionable material;

Nuclear related employment means all work performed at one or more than one nuclear facility in the United States of America or in connection with the transportation of nuclear material to or from any such facility.

All of a new worker's nuclear related employment shall be considered as having begun on the first day of such employment, regardless of the number of employers involved or interruptions in such employment;

Policy period means the period defined in Section VI A hereof;

Ratable incurred losses has the meaning given in Attachment 1 to this policy;

Source material has the meaning given in the Atomic Energy Act of 1954, or in any law amendatory thereof, and also includes tailings or wastes produced by the extraction of uranium or thorium from ore processed primarily for its source material content;

Special nuclear material has the meaning given in the Atomic Energy Act of 1954, or in any law amendatory thereof;

Spent fuel means any fuel element or fuel component, solid or liquid, which has been used or exposed to radiation in any nuclear reactor;

The facility refers to the facility described in the Declarations of a Certificate. It includes the location described in Item 3 thereof and all property and operations at such location;

Waste means any waste material that contains byproduct material and results from the operation by any person or organization of:

(1) Any nuclear reactor; or

(2) Any equipment or device designed or used for:

(a) Separating the isotopes of uranium or plutonium;

(b) Processing or utilizing spent fuel; or

(c) Handling, processing or packaging such waste material.

III—Coverage

In the event that a new worker's claim is made against a person or organization who is an insured under a Certificate issued to form a part of this policy:

(1) The companies shall pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of bodily injury to which this policy applies, sustained by a new worker and caused by the nuclear energy hazard.

The companies shall have the right and duty to defend any suit against the insured alleging such injury and seeking damages payable under the terms of this policy. But the companies may make such investigation and settlement of any claim or suit seeking such damages as they deem appropriate.

(2) The companies shall also pay, as part of the Amount of Insurance Available under this policy, the claims costs relating to any such claim or suit.

(3) The companies' obligation to pay damages and claims costs, and to defend any claim and suit ends when the Policy Aggregate Limit has been exhausted pursuant to the provisions of Section VIII.

IV—Definition of Insured

When used in reference to a Certificate issued to form a part of this policy, the unqualified word *insured* means:

(1) each insured named in Item 1 of the Declarations of the Certificate; and

(2) any other person or organization with respect to legal responsibility for damages because of bodily injury to a new worker caused by the nuclear energy hazard applicable to the Certificate. This subsection (2) does not include as an insured the United States of America or any of its agencies except the Tennessee Valley Authority.

V—Exclusions

This policy does not apply:

(1) To any obligation for which the insured or any carrier as his insurer may be held liable under any worker's compensation, unemployment compensation or disability benefits law, or under any similar law;

(2) To bodily injury to any employee of the insured arising out of or in the course of employment by the insured; but this exclusion (2) does not apply to liability assumed by the insured under an insured contract;

(3) To liability assumed by the insured under contract, other than an insured contract;

(4) To bodily injury to a new worker due to the manufacturing, handling or use at the location designated in Item 3 of the Declarations of any Certificate, in time of peace or war, of any nuclear weapon or other instrument of war utilizing special nuclear material or byproduct material;

(5) To bodily injury to a new worker due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing;

(6) To bodily injury to a new worker arising in whole or in part out of an extraordinary nuclear occurrence.

VI—Policy Period; Discovery Period; Application of Policy

A. Policy Period

The policy period of this policy begins at 12:01 a.m. on January 1, 1988 and ends at the close of December 31, 1992, Eastern Standard Time, or when all Certificates issued to form a part hereof have been cancelled, whichever first occurs.

B. Discovery Period

The discovery period for claims made under this policy begins at 12:01 a.m. on January 1, 1988 and ends at the close of December 31, 1997, Eastern Standard Time.

C. Application of Policy

This policy applies only to bodily injury to a new worker (1) which is caused during the policy period by the nuclear energy hazard and (2) which is discovered and for which written claim is first made against the insured within the discovery period.

VII—Other Insurance

A. This insurance is primary insurance under any insurance afforded by a Master Policy-Nuclear Energy Liability Insurance (Secondary Financial Protection) issued by NELIA or MAELU.

B. If an insured has other valid and collectible insurance, except under a MAELU Policy, for loss or expense covered by this policy, this shall be excess insurance over such other insurance. If the insured has insurance under a MAELU Policy, whether the insurance is collectible or not, the companies shall then be liable under this policy only for such proportion of loss or expense as the amount stated as the Policy Aggregate Limit in Section VIII of this policy bears to the sum of such amount and the corresponding amount stated in the MAELU Policy.

VIII—Amount of Insurance Available

A. Policy Aggregate Limit

1. The Policy Aggregate Limit is $124 million. This limit is not cumulative from year to year. The limit applies to all new worker's claims that qualify for coverage under this policy (herein called *qualified claims*).

2. The Policy Aggregate Limit applies collectively to all new worker's claims. Such claims may be paid by NELIA on behalf of the companies as the claims, in NELIA's discretion, become ready for disposition, and claims costs may be paid as they become due, all without regard to the order in which such claims were made and without any obligation to maintain, reserve or use any portion of the Policy Aggregate Limit for claims reported under any particular Certificate.

B. Limitation of the Companies' Liability

1. Regardless of the number of (a) Certificates issued to form a part of this policy, (b) persons and organizations who are insureds under such Certificates, (c) qualified claims, or (d) years this policy or any such Certificates shall continue in force, the Policy Aggregate Limit is the total liability of the companies for all of their obligations under this policy, including the defense of suits and the payment of damages and claims costs.

2. This policy provides for certain automatic reinstatements of the Policy Aggregate Limit. Regardless of such provision, if,

during the policy period or thereafter, the total payments of the companies for

(a) Non-ratable incurred losses, and

(b) Those ratable incurred losses for which the companies have not been reimbursed under the Industry Retrospective Rating Plan Premium Endorsement described in Attachment 1 to this policy,

equal $124 million, the Policy Aggregate Limit shall be deemed to be exhausted, and shall not be further reinstated except by an endorsement issued to form a part of this policy for additional premium as determined by the companies.

C. Reduction and Reinstatement of the Policy Aggregate Limit

1. Each payment made by the companies in discharge of their obligations under this policy shall reduce the Policy Aggregate Limit by the amount of such payment.

2. The companies shall, however, automatically reinstate the policy aggregate limit until the total amount of such reinstatements equals $124 million, but in no event shall there be any automatic reinstatements after the Policy Aggregate Limit is exhausted pursuant to the provisions of subsection B.2. above. Thereafter, there shall be no further reinstatement of the Policy Aggregate Limit except by an endorsement issued to form a part of this policy for additional premium as determined by the companies.

3. It is a condition of this insurance that the companies shall have the right to reimburse themselves, as a matter of first priority, from funds held by NELIA in the Special Reserve Account described in Attachment 1 to this policy or from retrospective premiums received by NELIA for this insurance. The amount of reimbursement shall be equal to 95% of each payment made by the companies with respect to their obligations under this policy.

IX—Insured's Duties in Case of Claims or Suits

A. Notice of Claims or Suits

In the event of any claim or suit involving bodily injury to which a Certificate issued to form a part of this policy applies, written notice containing particulars sufficient to identify the insured and also reasonably obtainable information with respect to the time, place and circumstances thereof shall be given by or for the insured to the companies as soon as practicable. The insured shall immediately forward to the companies every demand, notice, summons or other process received relating to claims or suits against the insured.

B. Assistance and Cooperation

The insured shall cooperate with the companies and, upon their request, shall:

(1) Attend hearings and trials; and

(2) Assist in making settlements, securing and giving evidence, obtaining the attendance of witnesses and in the conduct of any legal proceedings in connection with the subject matter of this insurance.

The insured shall not, except at the insured's own cost, make any payment, assume any obligation or incur any expense.

X—Subrogation

In the event of any payment through a Certificate to form a part of this policy, the companies shall be subrogated to all the insured's rights of recovery therefor against any person or organization, and the insured shall execute and deliver instruments and papers, and so whatever else is necessary to secure such rights. Prior to knowledge of bodily injury caused by the nuclear energy hazard the insured may waive in writing any or all right of recovery against any person or organization, but after such knowledge the insured shall not waive or otherwise prejudice any such right of recovery.

The companies hereby waive any right of subrogation against (1) any other insured or (2) the United States of America or any of its agencies acquired by reason of any payment under this policy.

It is a condition of this policy that if an insured makes a recovery on account of any such injury, the insured shall repay to the companies the amount to which the companies would have been entitled had the foregoing provisions, or any of them, not been included in the policy.

XI—Inspection and Suspension

The companies shall be permitted, but not obligated, to inspect at any time the facility as described in any Certificate and all books, records and operation relating thereto, both with respect to this insurance, and any other nuclear energy liability insurance and property insurance also afford with respect thereto by members of NELIA, American Nuclear Insurers, MAELU or MAERP Reinsurance Association.

If a representative of the companies discovers a condition which he or she believes to be unduly dangerous with respect to the risks insured under the Certificate, a representative of the companies may request such condition to be corrected without delay. In the event of noncompliance with the request, an officer of NELIA may, by written notice mailed or delivered to the first Named Insured, with similar notice to the United States Nuclear Regulatory Commission, suspend the insurance afforded by a Certificate issued by NELIA effective 12:00 midnight of the next business day of such Commission following the date that such Commission receives such notice. The period of such suspension shall terminate as of the time stated in a written notice from NELIA to the first Named Insured that such condition has been corrected.

Neither the right to make such inspections or suspensions nor the making thereof nor any advice or report resulting therefrom shall constitute an undertaking, on behalf of or for the benefit of the Named Insureds or others to determine or warrant that the facility or operations relating thereto are safe or healthful, or are in compliance with any law, rule or regulation.

In consideration of the issuance or continuation of a Certificate, the Named Insureds agree that neither the companies nor any persons or organizations making such inspections on their behalf shall be liable for damage to the facility or any consequential damage or cost resulting therefrom, including but not limited to any such damage or cost relating to interruption of business or manufacture, arising out of the making of or failure to make any such inspection of the facility, any report thereon, or any such suspension of insurance, but this provision does not limit the companies' contractual obligations under a Certificate issued by NELIA or any policy issued by NELIA or American Nuclear Insurers affording the insured nuclear energy liability or property insurance.

XII—Cancellation of Certificates

The first Named Insured designated in a Certificate issued to from a part of this policy any cancel such Certificate by mailing to the companies and the United States Nuclear Regulatory Commission written notice stating when, not less than 30 days thereafter, such cancellation shall be effective.

The companies may cancel any such Certificate by mailing to the first Named Insured designated therein at the address shown in such Certificate and to the United States Nuclear Regulatory Commission written notice, stating when, not less than 90 days thereafter, such cancellation shall be effective; provided in the event of nonpayment of premium, or if the operator of the facility, as designated in the Declarations of the Certificate, is replaced by another person or organization, such Certificate may be cancelled by the companies by mailing to the first Named Insured at the address shown therein and to the United States Nuclear Regulatory Commission written notice, stating when, not less than 30 days thereafter, such cancellation shall be effective.

The mailing of notice as aforesaid shall be sufficient proof of notice. The effective date and hour of cancellation stated in the notice shall become the end of the Certificate period. Delivery of such written notice either by the first Named Insured or the companies shall be equivalent to mailing.

Upon cancellation of a Certificate, other than as of the end of December 31 in any year, the earned standard premium for the period such Certificate has been in force since the preceding December 31 shall be computed in accordance with the following provisions:

(1) If the first Named Insured cancels, the earned standard premium for such period shall be computed in accordance with the customary annual short rate table and procedure; provided, however, that if the first Named Insured cancels after knowledge of bodily injury caused by the nuclear energy hazard, all premiums theretofore paid or payable shall be fully earned;

(2) If the companies cancel, the earned standard premium for such period shall be computed pro rata.

Premium adjustment, if any, may be made either at the time of cancellation or as soon as practicable after cancellation becomes effective, but payment of tender of unearned premium is not a condition of cancellation.

Cancellation of a Certificate shall not affect the rights and obligations of the Named Insureds under the Insureds under the Industry Retrospective Rating Plan Premium Endorsement forming a part of the Certificate.

XIII—General Conditions

A. Premium

The Named Insureds designated in a Certificate issued by NELIA shall pay the companies the premiums for the Certificate in accordance with the provisions of the *Industry Retrospective Rating Plan Premium Endorsement* described in Attachment 1 to this policy.

B. Modifications, Waiver

The provisions of this policy or a Certificate issued to form a part hereof shall not be changed or waived except by an endorsement issued by the companies to form a part of the policy or Certificate.

C. Assignment

Assignment of interest under a Certificate issued to form a part of this policy shall not bind the companies until their consent is endorsed thereon. If, however, a Named Insured shall die or be declared bankrupt or insolvent, the Certificate shall cover the Named Insured's legal representative, receiver or trustee as an insured, but only with respect to liability as such, and then only provided written notice of the appointment as legal representative, receiver or trustee is given to the companies within 10 days after such appointment.

D. Suit

No suit or action on a Certificate issued to form a part of this policy shall lie against the companies or any of them unless, as a condition precedent thereto, the insured shall have fully complied with all the terms of the policy, nor until the amount of the insured's obligation to pay shall have been finally determined either by judgment against the insured after actual trial or by written agreement of the insured, the claimant and the companies.

Any person or organization or the legal representative thereof who has secured such judgment of written agreement shall thereafter be entitled to recover under the Certificate to the extent of the insurance afforded by this policy through the Certificate. No person or organization shall have any right under the Certificate to join the companies or any of them as parties to any action against the insured to determine the insured's liability, nor shall the companies or any of them be impleaded by the insured or the insured's legal representative.

Bankruptcy or insolvency of the insured or the insured's estate shall not relieve the companies of any of their obligations under this policy.

E. Authorization of The First Named Insured

Except with respect to compliance with the obligations imposed on the insured by the Sections of this policy entitled *Insured's Duties in Case of Claims or Suits*, Subrogation and *Suit*, the first Named Insured designated in the Declarations of a Certificate issued to form a part of this policy is authorized to act for every other insured in all matters pertaining to this insurance.

F. Insured Representation

Any notice, sworn statement of proof of Loss which may be required by the provisions of this policy may be given to any one of the companies specified in the Schedule of Subscribing Companies attached hereto. Such notice, statement or proof of Loss so given shall be valid and binding on all such companies.

In any action or suit against such companies, service of process may be made on any one of them and such service shall be valid and binding service on all such companies.

Nuclear Energy Liability Insurance Association is the agent of the companies with respect to all matters pertaining to this insurance. All notices or other communications required by this policy may be given to such agent at its office at: Nuclear Energy Liability Insurance Association, The Exchange, Suite 245, 270 Farmington Avenue, Farmington, Connecticut 06032, with the same force and effect as if given directly to the companies. Any requests, demands or agreements made by such agent shall be deemed to have been made directly by the companies.

G. Changes in Subscribing Companies and Their Proportionate Liability

By acceptance of this policy the Named Insureds agree that the members of Nuclear Energy Liability Insurance Association liable under this policy, and the proportionate liability of each such member, may change from year to year, and further agree that regardless of such changes:

(1) Each company subscribing this policy upon its issuance shall be liable only for its stated proportion of any obligation assumed or expense incurred under this policy because of bodily injury to new workers caused, during the period from the effective date of this policy to the close of December 31 next following, by the nuclear energy hazard; for each subsequent calendar year, beginning January 1 next following the effective date of this policy, any change in the subscribing companies and the proportionate liability of each such company shall be stated in an endorsement issued to form a part of this policy, duly executed and attested by the President of Nuclear Energy Liability Insurance Association on behalf of each such company, and a copy of which will be mailed or delivered to the first Named Insured of each Certificate.

(2) The liability of any subscribing company shall not be cumulative from year to year.

H. Declarations

By acceptance of this Master Worker Policy, the Named Insureds designated in a Certificate agree that the statements in such Certificate are their agreements and representations, that this Master Worker Policy and such Certificate are issued in reliance upon the truth of such representations and that this Master Worker Policy and such Certificate embody all agreements between such Named Insureds and the companies or any of their agents relating to this insurance.

In Witness Whereof, the companies subscribing this policy have caused the policy to be executed and attested on their behalf by the President of Nuclear Energy Liability Insurance Association and duly countersigned by an authorized representative, but this policy shall be binding on each company only to the extent of its designated proportion of any obligation assumed or expense incurred under this policy.

For the Subscribing Companies:
Date of Issue: _______ 19___

Countersigned by: (Authorized Representative)

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

NUCLEAR ENERGY LIABILITY POLICY

(Facility Worker Form) herein called the Master Worker Policy

Certificate of Insurance, NMWPC-1(1/1/88)

Certificate No. _____

This is to certify that the insured named in Item 1 of the Declarations hereof, hereinafter called the *Named Insureds*, have obtained insurance under the Master Worker Policy issued by Nuclear Energy Liability Insurance Association on behalf of its members. The insurance is subject to all of the provisions of the *Certificate* and the Master Worker Policy.

1—Declarations

Item 1.—Named Insureds and Addresses:

Item 2.—Certificate Coverage Period:

Beginning at 12:01 a.m. January 1, 1988 and ending at the close of December 31, 1992, Eastern Standard Time, or at the time and date this Certificate is cancelled or terminated, whichever first occurs.

Item 3.—Description of the Facility:

Location:
Type:
Operator of the Facility:

Item 4.—Amount of Insurance Available:

The amount of insurance afforded by the Master Worker Policy through this Certificate shall be determined by Section VIII of the Master Worker Policy and all of the other provisions of the policy relating thereto.

Item 5.—Advance Premium: $

2—Application of Certificate

This Certificate applies only to bodily injury to a new worker (1) which is caused, during the Certificate Coverage Period, by the nuclear energy hazard and (2) which is discovered and for which written claim is first made against an insured under the Certificate within the discovery period of the Master Worker Policy.

3—Industry Retrospective Rating Plan

All insurance under the Master Worker Policy is subject to the Industry Retrospective Rating Plan in use by the companies. No insurance is provided under this Certificate unless and until the first Named Insured has accepted in writing the Industry Retrospective Rating Plan Premium Endorsement and a copy of the signed endorsement has been issued by the companies to form a part of this Certificate.

In Witness Whereof, the companies subscribing the Master Worker Policy have caused this Certificate to be executed and attested on their behalf by the President of Nuclear Energy Liability Insurance Association and duly countersigned by an authorized representative.

For the Subscribing Companies:
Date of Issue _______ 19 _____
Countersigned by: _____________ _________
(Authorized Representative)

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

NUCLEAR ENERGY LIABILITY INSURANCE

Industry Retrospective Rating Plan Premium Endorsement, NE-W-1(1/1/88)

It is agreed that:

1. Definitions

With reference to the premium for the Certificate of which this endorsement forms a part:

Master Worker Policy means the Master Worker Policy issued by NELIA;

Certificate Holder means the first Named Insured in a Certificate issued to form a part of the Master Worker Policy;

Advance premium, for any calendar year, is the estimated standard premium for that calendar year;

Standard premium, for any calendar year, is the premium for that calendar year computed in accordance with the companies' rules, rates, rating plans (other than the Industry Retrospective Rating Plan), premiums and minimum premiums applicable to this insurance. Standard premium includes elements for premium taxes, expenses, profit and contingencies, guaranteed cost insurance and estimated reserve premium. The elements of standard premium, other than for premium taxes and estimated reserve premium, are not subject to retrospective adjustment;

Reserve premium means that portion of the premium for a Certificate (including reserve premium charges paid) that is specifically allocated under the Industry Retrospective Rating Plan for ratable incurred losses;

Industry reserve premium, for any period, is the sum of the reserve premiums for that period for all Certificates issued to form a part of the Master Worker Policy;

Retrospective adjustment ratio, for any period, is the ratio of the reserve premium for this Certificate for that period to the industry reserve premium for the same period;

Incurred losses means the sum of all:

(1) Losses and expenses paid by NELIA, and

(2) Reserves for losses and expenses as estimated by NELIA, because of obligations assumed and expenses incurred in connection with such obligations by the members of NELIA under the Master Worker Policy;

Ratable incurred losses means 95% of incurred losses. Ratable incurred losses are the portion of incurred losses which are not covered by the guaranteed cost insurance element of standard premiums;

Non-ratable incurred losses means 5% of incurred losses. Nonratable incurred losses are the portion of incurred losses which are covered by the guaranteed cost insurance element of standard premiums;

Reserve for refunds, as of any date, is the algebraic difference between:

(1) All industry reserve premium for the period from January 1, 1988 through such date, minus

(2) The total for the same period of (a) all ratable incurred losses and (b) all industry reserve premium refunds made under the Industry Retrospective Rating Plan by members of NELIA;

Industry reserve premium charge, for any period, means the amount determined pursuant to the provisions of Section 4 of this endorsement for payment by the Named Insureds under Certificates;

Reserve premium charge means the portion of an industry reserve premium charge payable by the Named Insureds under Certificates;

Industry reserve premium refund for any period, means the amount determined pursuant to the provisions of Section 4 of this endorsement for return to the Named Insureds under Certificates;

Reserve premium refund means the portion of an industry reserve premium refund returnable to the Named Insureds under this Certificate.

2. Payment of Advance and Standard Premiums

The Named Insureds shall pay the companies the advance premium stated in the declarations, for the period from the effective date of this Certificate through December 31 following. Thereafter, at the beginning of each calendar year while this Certificate is in force, the Named Insureds shall pay the advance premium for such year to the companies.

The advance premium for each calendar year shall be stated in the Advance and Standard Premium Endorsement for the year issued by the companies as soon as practicable prior to or after the beginning of the year.

As soon as practicable after the end of a calendar year or the Certificate Coverage Period, the standard premium for the preceding year shall be finally determined and stated in the Advance and Standard Premium Endorsement for that year. If the Standard Premium exceeds the Advance Premium paid for that year, the Named Insureds shall pay the excess to the companies; if less, the companies shall return to the Named Insureds the excess portion paid.

The Named Insureds shall maintain records of the information necessary for premium computation and shall send copies of such records to the companies as directed, at the end of each calendar year, at the end of the Certificate Coverage Period and at such other times as the companies may direct.

3. Special Reserve Account; Use of Reserve Premiums

NELIA shall maintain on behalf of its members a Special Reserve Account for holding collectively all reserve premiums paid for all Certificates issued to form a part of the Master Worker Policy. Such premiums, together with any undistributed net income realized thereon after taxes and investment expenses, shall be used for the following purposes only:

(1) To pay ratable incurred losses or, in the event ratable incurred losses are paid under the Master Worker Policy from funds advanced by the members of NELIA subscribing the policy, to reimburse such members as a matter of first priority for the funds advanced;

(2) To refund any amounts so held to the Named Insureds, as provided in Section 4.

No members of NELIA and no Named Insureds shall have any individual interest in or claim upon amounts held in the special Reserve Account, except to participate proportionally in any refund or reimbursement provided for above.

All reserve premiums paid or payable for this certificate may be used by NELIA to discharge the obligations of its members under the Master Worker Policy with respect to the above purposes and arising out of claims made under any Certificate issued to form a part of the Master Worker Policy.

4. Payment of Reserve Premium Charges and Refunds

As soon as practicable after each December 31 the companies will review the status of the reserve for refunds and report their findings to all Certificate Holders.

If, at any time, the companies find that there is negative balance in the reserve for refunds and that such condition is likely to prevail, they shall determine an appropriate industry reserve premium charge. Similarly, if the companies find that there is a surplus positive balance, they shall determine an appropriate industry reserve premium refund.

The portion of an industry reserve premium charge or an industry reserve premium refund that is:

(1) Payable by the Named Insureds as a reserve premium charge, or

(2) Due such insureds as reserve premium refund, shall be determined by multiplying the industry reserve premium charge or the industry reserve premium refund by the retrospective adjustment ratio applicable to this Certificate.

The amount of any reserve premium charge shall be stated in a Retrospective Reserve Premium Charge Endorsement. The charge shall be paid promptly after receipt of the endorsement.

When all claims covered by the Master Worker Policy are closed the companies shall make a final review and report, and shall determine a final industry reserve premium charge or industry reserve premium refund equal to the amount of the balance.

5. Final Premium

The final premium for this Certificate shall be (a) the sum of the standard premiums for each calendar year, or portion thereof, during which the Certificate remains in force plus (b) the sum of all reserve premiums, including all reserve premium charges, minus (c) the sum of all reserve premium refunds.

6. Reserve Premium Charge Agreement

In consideration of (a) the participation of Named Insureds in other Certificates subject to the Industry Retrospective Rating Plan, (b) the undertaking of such Named Insureds to pay their appropriate share of any industry reserve premium charge and (c) the obligations assumed by the members of NELIA under the Master Worker Policy, the Named Insureds, by acceptance of the Master Worker Policy, agree:

(1) That the insurance provided by the Master Policy applies collectively to all claims covered by the policy through any and all Certificates issued to form a part of the policy.

(2) That the right of each Named Insured under a Certificate to receive reserve premium refunds and the obligation of each such insured to pay reserve premiums charges applies to all claims covered by the Master Worker Policy and continues until all such claims are closed, whether or not such claims were before the inception of the Certificate or after its termination.

(3) To pay all reserve premium charges due promptly after receipt of the Retrospective Reserve Premium Charge Endorsement, whether or not the Certificate is terminated. Any reserve premium charge shall be overdue if not paid within 60 days of the date of the invoice for the charge.

Overdue reserve premium charges shall bear interest from the due date until paid at an annual rate equal to the sum of (a) 3% plus (b) a rate of interest equal to Moody's Average Public Utility Bond Yield described in the issue of Moody's Bond Survey current on the due date. Any reserve premium refund due to Named Insureds under a Certificate shall be used to pay any overdue reserve premium charges to such Named Insureds.

7. Reserve Premium Refund Agreement

Each member of NELIA subscribing the Master Worker Policy for any calendar year, or portion thereof, with respect to which an industry reserve premium refund is determined to be payable thereby agrees for itself, severally and not jointly, and in the respective proportion of its liability assumed under the Master Worker Policy for that calendar year, to return promptly to the Named Insureds that portion of such refund due such Insureds, as determined in accordance with the provisions of this endorsement.

Accepted and agreed by the first Named Insured in behalf of itself and every other Named Insured stated in the Declarations of the Certificate of which this endorsement forms a part.

______

(First Named Insured—Type or Print

Date ______

By ______

(Signature of Authorized Officer)

______

(Type of Print Named and Title of Officer)

Effective Date of this Endorsement ______

12:01 a.m. Standard Time

To form a part of Policy No______

Issued to______

Date of Issue ______

For the subscribing companies:

By ______

General Manager

Endorsement No:

Countersigned by ______

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

NUCLEAR ENERGY LIABILITY INSURANCE

Advance Premium and Standard Premium Endorsement, NE-W-2(1/1/88)

Calendar Year 1988

1. Advance Premium

It is agreed that the Advance Premium due the companies for the period designated above is:

$ ______

2. Standard Premium and Reserve Premium

In the absence of a change in the Advance Premium indicated above, it is agreed that, subject to the previsions of the Industry Retrospective Rating Plan, the Standard Premium is said Advance Premium and the estimated reserve Premium element of the Standard Premium is:

$ ________

Explanation of Use of this Endorsement: This endorsement will be used in the first year of the Master Worker Policy. It states the Advance Premium and the estimated Reserve Premium for the year for the Certificate to which the endorsement is attached.

Effective Date of this Endorsement ________
12:01 a.m. Standard Time
To form a part of Policy No ________
Issued to ________
Date of Issue ________

For the subscribing companies:

By ________
General Manager
Endorsement No:
Countersigned by ________

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

NUCLEAR ENERGY LIABILITY INSURANCE

Advance Premium and Standard Premium Endorsement, NE-W-3 (1/1/88)

Calendar Year ________

It is agreed that Items 1 and 2 of Endorsement No. are amended to read:

1. Advance Premium

It is agreed that the Advance Premium due the companies for the period designated above is:

$ ________

2. Standard Premium and Reserve Premium

In the absence of a change in the advance premium indicated above, it is agreed that, subject to the provisions of the Industry Retrospective Rating Plan, the Standard Premium is said Advance Premium and the estimated Reserve Premium element of the Standard Premium is:

$ ________

Explanation of Use of this Endorsement: This endorsement will be used for calendar years of the Master Worker Policy after the 1988 calendar year. It states the Advance Premium and the estimated Reserve Premium for the year for the Certificate to which the endorsement is attached.

Effective Date of this Endorsement ________
12:01 a.m. Standard Time
To form a part of Policy No ________
Issued to ________
Date of Issue ________

For the subscribing companies:

By ________
General Manager
Endorsement No. ________
Countersigned by ________

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

NUCLEAR ENERGY LIABILITY INSURANCE

Retrospective Reserve Premium Charge Endorsement, NE-W-5 (1/1/88)

1. Industry Reserve Premium Charge

In accordance with Section 4 of the Industry Retrospective Rating Plant Premium Endorsement attached to each Certificate to this policy, the companies have reviewed the status of the reserve for refunds, found that there is a negative balance in the reserve for refunds and have determined that an industry reserve premium charge, as indicated below, is appropriate:

$ ________

2. Retrospective Adjustment Ratio

The portion of the industry reserve premium charge payable by the Named Insureds under this Certificate is determined by multiplying such charge by this Certificate's retrospective adjustment ratio, which is:

. ________

3. Reserve Premium Charge

The Named Insureds' portion of the industry reserve premium charge, as calculated above, is:

$ ________

Explanation of Use of this Endorsement: This endorsement will be issued by the companies under the Master Worker Policy after an industry reserve premium charge has been determined because there is a negative balance in the reserve for refunds. It states the reserve premium charge applicable to the Certificate to which the endorsement is attached.

Effective Date of this Endorsement ________
12:01 a.m. Standard Time
To form a part of Policy No. ________
Issued to ________
Date of Issue ________

For the subscribing companies

By ________
General Manager
Endorsement No. ________
Countersigned by ________

[25 FR 2948, Apr. 7, 1960]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 140.91, see the List of

CFR Sections Affected in the Finding Aids section of this volume.

§ 140.92 Appendix B—Form of indemnity agreement with licensees furnishing insurance policies as proof of financial protection.

This indemnity agreement ——— is entered into by and between the ——— (hereinafter referred to as the *licensee*) and the United States Nuclear Regulatory Commission (hereinafter referred to as the *Commission*) pursuant to subsection 170c of the Atomic Energy Act of 1954, as amended (hereinafter referred to as *the Act*).

ARTICLE I

As used in this agreement,

1. *Nuclear reactor, byproduct material, person, source material, special nuclear material,* and *precautionary evacuation* shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2.(a) For facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more, and except when otherwise specifically provided, *amount of financial protection* means the amount specified in Item 2a. and b. of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan for deferred retrospective premium charges).

(b) For all other facilities, and except where otherwise specifically provided, *amount of financial protection* means the amount specified in Item 2a. and b., of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences.

3. (a) *Nuclear incident* means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence including an extraordinary nuclear occurrence or series of occurrences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as *the radioactive material* in any other agreement or agreements entered into by the Commission under subsection 170 c or k of the Act and so discharged or dispersed from *the location* as defined in any such other agreement, or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act as *the radioactive material* and which is in the course of transportation,

shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

4. *Extraordinary nuclear occurrence* means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

5. *In the course of transportation* means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not by pre-determination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) *In the course of transportation* as used in this agreement shall not include transportation of the radioactive material to the location if the material is also *in the course of transportation* from any other *location* as defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act.

6. *Person indemnified* means the licensee and any other person who may be liable for public liability.

7. *Public liability* means any legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political subdivision of a State, in the course of responding to a nuclear incident or precautionary evacuation), except (1) claims under State or Federal

Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

8. *The location* means the location described in Item 4 of the Attachment hereto.

9. *The radioactive material* means source, special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) which is produced as the result of operation of said reactor(s).

10. *United States* when used in a geographical sense includes Puerto Rico and all territories and possessions of the United States.

ARTICLE II

1. At all times during the term of the license or licenses designated in Item 3 of the Attachment hereto, the licensee will maintain financial protection in the amount specified in Item 2 of the Attachment and in the form of the nuclear energy liability insurance policy designated in the Attachment. If more than one license is designated in Item 3 of the Attachment, the licensee agrees to maintain such financial protection until the end of the term of that license which will be the last to expire. The licensee shall, notwithstanding the expiration, termination, modification, amendment, suspension or revocation of any license or licenses designated in Item 3 of the Attachment, maintain such financial protection in effect until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in paragraph 5(b), Article I of this section, or until the Commission authorizes the termination or the modification of such financial protection. The Commission will not unreasonably withhold such authorization.

2. In the event of any payment by the insurer or insurers under a policy or policies specified in Item 5 of the Attachment hereto which reduces the aggregate limit of such policy or policies below the amount of financial protection, the licensee will promptly apply to his insurers for reinstatement of the amount specified in Item 2a of the Attachment (without reference to paragraph b of Item 2) and will make all reasonable efforts to obtain such reinstatement. In the event that the licensee has not obtained reinstatement of such amount within ninety days after the date of such reduction, and in the absence of good cause shown to the contrary, the Commission may issue an order requiring the licensee to furnish financial protection for such amount in another form.

3. Any obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment hereto, shall not in the aggregate exceed the amount of financial protection with respect to any nuclear incident, including the reasonable costs of investigating and settling claims and defending suits for damage.

4. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf of itself and other persons indemnified, insofar as their interests appear, each agree to waive:

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to

(1) Negligence;

(2) Contributory negligence;

(3) Assumption of the risk;

(4) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, *conduct of the claimant* includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

5. The waivers set forth in paragraph 4 of this article:

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which

intentionally sustained by the claimant or
hich results from a nuclear incident inten-
onally and wrongfully caused by the claim-
nt;

(c) Shall not apply to injury to a claimant
ho is employed at the site of and in con-
ection with the activity where the extraor-
inary nuclear occurrence takes place if
enefits therefore are either payable or re-
uired to be provided under any workmen's
ompensation or occupational disease law:
rovided, however, That with respect to an
xtraordinary nuclear occurrence occurring
t the facility, a claimant who is employed
t the facility in connection with the con-
truction of a nuclear reactor with respect
o which no operating license has been
sued by the Nuclear Regulatory Commis-
ion shall not be considered as employed in
onnection with the activity where the ex-
raordinary nuclear occurrence takes place
:

(1) The claimant is employed exclusively
n connection with the construction of a nu-
lear reactor, including all related equip-
ent and installations at the facility, and

(2) No operating license has been issued
y the NRC with respect to the nuclear re-
ctor, and

(3) The claimant is not employed in con-
ection with the possession, storage, use or
ransfer of nuclear material at the facility;

(d) Shall not apply to any claim for puni-
ive or exemplary damages, provided, with
espect to any claim for wrongful death
nder any State law which provides for
amages only punitive in nature, this exclu-
ion does not apply to the extent that the
laimant has sustained actual damages,
easured by the pecuniary injuries result-
ng from such death but not to exceed the
aximum amount otherwise recoverable
nder such law;

(e) Shall be effective only with respect to
hose obligations set forth in this agree-
ent;

(f) Shall not apply to, or prejudice the
rosecution or defense of, any claim or por-
ion of claim which is not within the protec-
ion afforded under (1) the limit of liability
rovisions under subsection 170(e) of the
Atomic Energy Act of 1954, as amended, and
2) the terms of this agreement and the
erms of the nuclear energy liability insur-
ance policy or policies designated in the at-
tachment hereto.

6. The obligations of the licensee under
this agreement shall apply only with respect
to nuclear incidents occurring during the
term of this agreement.

7. Upon the expiration or revocation of
any license designated in Item 3 of the At-
tachment, the Commission will enter into
an appropriate amendment of this agree-
ment with the licensee reducing the amount
of financial protection required under this
Article; provided, that the licensee is then entitled to a reduction in the amount of financial protection under applicable Commission regulations and orders.

8. With respect to any common occurrence,

(a) If the sum of limit of liability of any Nuclear Energy Liability Insurance Association policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Nuclear Energy Liability Insurance Association exceeds $155,000,000 the amount of financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $155,000,000 as the limit of liability of the Nuclear Energy Liability Insurance Association policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Nuclear Energy Liability Insurance Association;

(b) If the sum of the limit of liability of any Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters exceeds $45,000,000, the amount of financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $45,000,000 as the limit of liability of the Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters;

(c) If any of the other applicable agreements is with a person who has furnished financial protection in a form other than a nuclear energy liability insurance policy (facility form) issued by Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters, and if also the sum of the amount of financial protection established under this agreement and the amounts of financial protection established under all other applicable agreements exceeds an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection, the obligations of the licensee shall not exceed a greater proportion of an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection, than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements.

(d) As used in this paragraph 8., Article II, and in Article III, *other applicable agreements* means each other agreement entered into by the Commission pursuant to subsection 170(c) of the Act in which agreement the nuclear incident is defined as a *common occurrence*. As used in this paragraph 8., Article II, *the obligations of the licensee* means the obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment, and the reasonable costs incurred by the insurers in investigating and settling claims and defending suits for damage.

9. The obligations of the licensee under this Article shall not be affected by any failure or default on the part of the Commission or the Government of the United States to fulfill any or all of its obligations under this agreement. Bankruptcy or insolvency of any person indemnified other than the licensee, or the estate of any person indemnified other than the licensee, shall not relieve the licensee of any of his obligations hereunder.

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location described in Item 4 of the Attachment or at the location described in Item 3 of the declarations attached to any nuclear energy liability insurance policy designated in Item 5 of the Attachment;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

3. [Reserved]

4.(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amounts of financial protection established under this agreement and all other applicable agreements; or (2) an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection.

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest: (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements.

7. The obligations of the Commission under this agreement, except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified or of the estate of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim

or action the licensee or the Commission may be required to indemnity under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 6 of the Attachment and shall terminate at the time of expiration of that license specified in Item 3 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in paragraph 5(b), Article I of this section. Termination of the term of this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

ARTICLE VIII

The following provisions are applicable to each licensee operating a facility designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more;

1. Each licensee is required to have and maintain financial protection in an amount specified in Item 2 a and b of the Attachment annexed hereto, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan providing for deferred premium charges); Provided, however, That under such a plan for deferred premium charges, such charges for each nuclear reactor which is licensed to operate shall not exceed $63,000,000 with respect to any single nuclear incident (plus any surcharge assessed under subsection 170o.(1)(E) of the Act) nor exceed $10,000,000 per incident within one calendar year. If the licensee fails to pay assessed deferred premiums, the Commission reserves the right to pay those premiums on behalf of the licensee and to recover the amount of such premiums from the licensee.

2. The Commission shall require the immediate submission of financial statements by those licensees who indicate, after an assessment of the retrospective premium by the insurance pools, that they will not pay the assessment. Such financial statements shall include, as a minimum, exhibits indicating internally generated funds from operations and accumulated retained earnings. Subsequent submission of financial statements by such licensees may be requested by the Commission, as required.

3. If premiums are paid by the Commission as provided in paragraph 1, payment by the Commission shall create a lien in the amount paid in favor of the United States upon all property and rights to property, whether real or personal, belonging to such licensee. The lien shall arise at the time payment is made by the Commission and shall continue until the liability for the amount (or a judgment against the licensee arising out of such liability) is satisfied or becomes unenforceable. The Commission will issue a certificate of release of any such lien if it finds that the liability for the amount has been fully satisfied or has become legally unenforceable.

4. If the Commission determines that the licensee is financially able to reimburse the Commission for a deferred premium payment made in its behalf, and the licensee, after notice of such determination by the Commission fails to make such reimbursement within 120 days, the Commission will take appropriate steps to suspend the license for 30 days. The Commission may take any further action as necessary if reimbursement is not made within the 30-day suspension period including, but not limited to termination of the operating license.

UNITED STATES NUCLEAR REGULATORY COMMISSION

Indemnity Agreement No. ——————
Item 1—Licensee ——————
Address ——————
Item 2—a. Amount of financial protection —

——————

b. With respect to any nuclear incident, the amount specified in Item 2a of this Attachment shall be deemed to be (i) reduced to the extent that any payment made by the insurer or insurers under a policy or policies specified in Item 5 of this Attachment reduces the aggregate amount of such insurance policies below the amount specified in Item 2a and (ii) restored to the extent that, following such reduction, the aggregate amount of such insurance policies is reinstated.

Item 3—License number or numbers ——

Item 4—Location ——

Item 5—Insurance Policy No.(s) ——

Item 6—The indemnity agreement designated above, of which this Attachment is a part, is effective as of — m., on the — day of ————, 19—.

For the United States Nuclear Regulatory Commission.

By ————
For the ————
(Name of licensee)
By ————

Dated at Bethesda, MD, the ——— day of ————, 19—.

[26 FR 3457, Apr. 22, 1961]

EDITORIAL NOTE: For additional FEDERAL REGISTER citations affecting § 140.92, see the List of CFR Sections affected in the Finding Aids section of this volume.

§ 140.93 Appendix C—Form of indemnity agreement with licensees furnishing proof of financial protection in the form of licensee's resources.

This indemnity agreement No. ————is entered into by and between the ——— (hereinafter referred to as the *licensee*) and the United States Nuclear Regulatory Commission (hereinafter referred to as the *Commission* pursuant to subsection 170(c) of the Atomic Energy Act of 1954, as amended (hereinafter referred to as *the Act*).

ARTICLE I

As used in this agreement,

1. *Nuclear reactor, byproduct material, person, source material, special nuclear material,* and *precautionary evacuation* shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2.(a) For facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more, and except where otherwise specifically provided, *amount of financial protection* means the amount specified in Item 2 of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan providing for deferred retrospective premium charges).

(b) For all other facilities, and except where otherwise specifically provided, *amount of financial protection* means the amount specified in Item 2 of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences.

3. (a) *Nuclear incident* means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence including an extraordinary nuclear occurrence or series of occurrences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of—

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as *the radioactive material* in any other agreement or agreements entered into by the Commission under subsection 170(c) or (k) of the Act and so discharged or dispersed from *the location* as defined in any such other agreement; or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act as *the radioactive material* and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

4. *Extraordinary nuclear occurrence* means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

5. *In the course of transportation* means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not by pre-determination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) *In the course of transportation* as used in this agreement shall not include transportation of the radioactive material to the location if the material is also *in the course of transportation* from any other *location* as defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act.

6. *Person indemnified* means the licensee and any other person who may be liable for public liability.

7. *Public liability* means any legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political sudivision of a State, in the course of responding to a nuclear incident or precautionary evacuation), except (1) claims under State or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use, or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material, and (b), if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

8. *The location* means the location described in Item 4 of the Attachment hereto.

9. *The radioactive material* means source, special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) which is produced as the result of operation of said reactor(s).

10. *United States* when used in a geographical sense includes Puerto Rico and all territories and possessions of the United States.

ARTICLE II

1. The licensee undertakes and agrees to indemnify and hold harmless all persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the incident, the licensee agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another, provided, that the obligation of the licensee under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation; and

(d) The radioactive material.

3. Any obligations of the licensee under paragraphs 1 and 2 of this Article, and under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability shall not in the aggregate exceed the amount of financial protection with respect to any nuclear incident, including the reasonable costs of investigating and settling claims and defending suits for damage.

4. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf of itself and other persons indemnified, insofar as their interests appear, each agree to waive:

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to:

(1) Negligence;

(2) Contributory negligence;

(3) Assumption of the risk;

(4) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, *conduct of the claimant* includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

5. The waivers set forth in paragraph 4, of this article:

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(c) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law: *Provided, however*, That with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Nuclear Regulatory Commission shall not be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility, and

(2) No operating license has been issued by the NRC with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use or transfer of nuclear material at the facility;

(d) Shall not apply to any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law;

(e) Shall be effective only with respect to those obligations set forth in this agreement and in contracts or other proof of financial protection;

(f) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (1) the limit of liability provisions under subsection 170(e), of the Atomic Energy Act of 1954, as amended, and (2) the terms of this agreement and the terms of contracts or other proof of financial protection.

6. The obligations of the licensee under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

7. Upon the expiration or revocation of any license designated in Item 3 of the Attachment, the Commission will enter into an appropriate amendment of this agreement with the licensee reducing the amount of financial protection required under this Article; provided, that the licensee is then entitled to a reduction in the amount of financial protection under applicable Commission regulations and orders.

8. With respect to a common occurrence, if the sum of the amount of financial protection established under this agreement and the amount of financial protection established under all other applicable agreements exceeds an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection, the obligations of the licensee described in paragraph 3 of this Article shall not exceed a greater proportion of an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements. As used in this paragraph, and in Article III, *other applicable agreements* means each other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act in which agreement the nuclear incident is defined as a *common occurrence*.

9. The obligations of the licensee under this Article shall not be affected by any failure or default on the part of the Commission or the Government of the United States to fulfill any or all of its obligations under this agreement. Bankruptcy or insolvency of any person indemnified other than the licensee, or the estate of any person indemnified other than the licensee, shall not relieve the licensee of any of his obligations hereunder.

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

3. [Reserved]

4.(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to Paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amount of financial protection established under this agreement and to all other applicable agreements; or (2) an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection.

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest: (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements.

7. The obligations of the Commission under this agreement, except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnify under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 6 of the attachment and shall terminate at the time of expiration of that license specified in Item 3 of the attachment, which is last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 5(b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

ARTICLE VIII

The following provisions are applicable to each licensee operating a facility designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more:

1. Each licensee is required to have and maintain financial protection in an amount specified in Item 2 annexed hereto, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan providing for deferred premium charges): Provided, however, That under such a plan for deferred premium charges, such charges for each nuclear reactor which is licensed to operate shall not exceed $63,000,000 with respect to any single nuclear incident (plus any surcharge assessed under subsection 170o.(1)(E) of the Act) nor exceed $10,000,000 per incident within one calendar year. If the licensee fails to pay assessed deferred premiums, the Commission reserves the right to pay those premiums on behalf of the licensee and to recover the amount of such premiums from the licensee.

2. The Commission shall require the immediate submission of financial statements by those licensees who indicate, after an assessment of the restrospective premium by the insurance pools, that they will not pay the assessment. Such financial statements shall include, as a minimum, exhibits indicating internally generated funds from operations and accumulated retained earnings. Subsequent submission of financial statements by such licensees may be requested by the Commission, as required.

3. If premiums are paid by the Commission as provided in paragraph 1, payment by the Commission shall create a lien in the amount paid in favor of the United States upon all property and rights to property, whether real or personal, belonging to such licensee. The lien shall arise at the time payment is made by the Commission and shall continue until the liability for the amount (or a judgment against the licensee arising out of such liability) is satisfied or becomes unenforceable. The Commission will issue a certificate of release of any such lien if it finds that the liability for the amount has been fully satisfied or has become legally unenforceable.

4. If the Commission determines that the licensee is financially able to reimburse the Commission for a deferred premium payment made in its behalf, and the licensee, after notice of such determination by the Commission fails to make such reimbursement within 120 days, the Commission will take appropriate steps to suspend the license for 30 days. The Commission may take any further action as necessary if reimbursement is not made within the 30-day suspension period including, but not limited to, termination of the operating license.

UNITED STATES NUCLEAR REGULATORY COMMISSION

Indemnity Agreement No. ——

Attachment

Item 1—Licensee ————————
Address ————————
Item 2—Amount of financial protection ——
Item 3—License number or numbers ———
Item 4—Location ————————
————————————
————————————

Item 5—The Indemnity Agreement designated above, of which this Attachment is a part, is effective as of ———M., on the ——— day of —————, 19—.

For the United States Nuclear Regulatory Commission.

By ————————
For the ————————
(Name of licensee)
By ————————

Dated at Bethesda, MD, the ——— day of —————, 19—.

[26 FR 3459, Apr. 22, 1961]

EDITORIAL NOTE: For additional FEDERAL REGISTER citations affecting § 140.93, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 140.94 Appendix D—Form of indemnity agreement with Federal agencies.

This indemnity agreement No. D—— is entered into by and between the ——— (hereinafter referred to as the *licensee*) and the United States Nuclear Regulatory Commission (hereinafter referred to as the *Commission*) pursuant to subsection 170(c) of the Atomic Energy Act of 1954, as amended (hereinafter referred to as *the Act*).

ARTICLE I

As used in this agreement,

1. *Nuclear reactor, byproduct material, person, source material, special nuclear material,* and *precautionary evacuation* shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2. (a) *Nuclear incident* means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting

from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence including an extraordinary nuclear occurrence or series of occurrences causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of

(i) The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as *the radioactive material* in any other agreement or agreements entered into by the Commission under subsection 170(c) or (k) of the Act and so discharged or dispersed from *the location* as defined in any such other agreement, or

(ii) The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act as *the radioactive material* and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

3. *Extraordinary nuclear occurrence* means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

4. *In the course of transportation* means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not by predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) *In the course of transportation* as used in this agreement shall not include transportation of the radioactive material to the location if the material is also *in the course of transportation* from any other *location* as defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act.

5. *Person indemnified* means the licensee and any other person who may be liable for public liability.

6. *Public liability* means any legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political subdivision of a State, in the course of responding to a nuclear incident or precautionary evacuation), except (1) claims under State of Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use, or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

7. *The location* means the location described in Item 3 of the Attachment hereto.

8. *The radioactive material* means source, special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) is produced as the result of operation of said reactor(s).

9. *United States* when used in a geographical sense includes Puerto Rico and all territories and possessions of the United States.

Article II

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

3. [Reserved]

4. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf of itself and other persons indemnified, insofar as their interests appear, each agree to waive:

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to:

(1) Negligence;

(2) Contributory negligence;

(3) Assumption of the risk;

(4) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, *conduct of the claimant* includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

5. The waivers set forth in paragraph 4 of this article:

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(c) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law: *Provided, however,* That with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Nuclear Regulatory Commission shall not be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility, and

(2) No operating license has been issued by the NRC with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use or transfer of nuclear material at the facility;

(d) Shall not apply to any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law;

(e) Shall be effective only with respect to those obligations set forth in this agreement;

(f) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (1) the limit of liability provisions under subsection 170(e), of the Atomic Energy Act of 1954, as amended, and (2) the terms of this agreement.

6. With respect to a common occurrence, the obligations of the Commission under this Article shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amount of financial protection established under all applicable agreements; or (2) an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection. As used in this Article *applicable agreements* means each agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act in which agreement the nuclear incident is defined as *common occurrence.*

7. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

8. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lower: (a) $500,000,000 or (b) with respect to a

common occurrence, $560,000,000 less the sum of the amounts of financial protection established under all applicable agreements.

9. Bankruptcy or insolvency of any person indemnified or of the estate of any person indemnified shall not relieve the Commission of any of its obligations hereunder.

ARTICLE III

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other persons indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnify under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE IV

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE V

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

ARTICLE VI

The term of this agreement shall commence as of the date and time specified in Item 4 of the attachment and shall terminate at the time of expiration of that license specified in Item 2 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in paragraph 4(b), Article I of this section. Termination of the term of this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

UNITED STATES NUCLEAR REGULATORY
COMMISSION

Indemnity Agreement No. D———

ATTACHMENT

Item 1—Licensee ————————————
Address ————————————————
Item 2—License number or numbers ———
Item 3—Location ————————————

————————————————————

————————————————————

Item 4—The indemnity agreement designated above, of which this Attachment is a part, is effective as of —— m., on the —— day of ————, 19—.

For the United States Nuclear Regulatory Commission.

By ————————————
For the ————————————
(Name of licensee)
By ————————————

Dated at Bethesda, MD, the —— day of ————, 19—.

[27 FR 2886, Mar. 29, 1962]

EDITORIAL NOTE: For additional FEDERAL REGISTER citations affecting § 140.94, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 140.95 Appendix E—Form of indemnity agreement with nonprofit educational institutions.

This indemnity agreement No. E——— is entered into by and between the ——— (hereinafter referred to as the *licensee*) and the United States Nuclear Regulatory Commission (hereinafter referred to as the *Commission*) pursuant to subsection 170(k) of the Atomic Energy Act of 1954, as amended (hereinafter referred to as *the Act*).

ARTICLE I

As used in this agreement,

1. *Nuclear reactor, byproduct material, person, source material, special nuclear material,* and *precautionary evacuation* shall have the meanings given them in the

Atomic Energy Act of 1954, as amended, and the regualtions issued by the Commission.

2. (a) *Nuclear incident* means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence including an extraordinary nuclear occurrence or series of occurrences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as *the radioactive material* in any other agreement or agreements entered into by the Commission under subsection 170(c) or (k) of the Act and so discharged or dispersed from *the location* as defined in any such other agreement; or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act as *the radioactive material* and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

3. *Extraordinary nuclear occurrence* means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

4. *In the course of transportation* means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not by predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) *In the course of transportation* as used in this agreement shall not include transportation of the radioactive material to the location if the material is also *in the course of transportation* from any other location as defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act.

5. *Person indemnified* means the licensee and any other person who may be liable for public liability.

6. *Public liability* means are legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political subdivision of a State, in the course of responding to a nuclear incident or precautionary evacuation), except (1) claims under State or Federal Workmen's Compensation Act of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, or the transporting vehicle, and (b) in connection with the licensee's possession, use, or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

7. *The location* means the location described in Item 3 of the Attachment hereto.

8. *The radioactive material* means source, special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) which is produced as the result of operation of said reactor(s).

9. *United States* when used in a geographical sense includes Puerto Rico and all territories and possessions of the United States.

Article II

1. Any obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability shall not in the aggregate exceed $250,000 with respect to any nuclear incident.

2. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf of itself and other persons indemnified, insofar as their interests appear, each agree to waive:

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to

(1) Negligence;

(2) Contributory negligence;

(3) Assumption of the risk;

(4) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, *conduct of the claimant* includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

3. The waivers set forth in paragraph 2 of this article:

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(c) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law: *Provided, however,* That with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Nuclear Regulatory Commission shall not be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility, and

(2) No operating license has been issued by the NRC with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use, or transfer of nuclear material at the facility;

(d) Shall not apply to any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law;

(e) Shall be effective only with respect to those obligations set forth in this agreement;

(f) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (1) the limit of liability provisions under subsection 170(e) of the Atomic Energy Act of 1954, as amended, and (b) the terms of this agreement.

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

3. [Reserved]

4.(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed $250,000.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amounts of financial protection established under all applicable agreements; or (2) an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection. As used in this Article *applicable agreements* means each agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act in which agreement the nuclear incident is defined as a *common occurrence.*

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not with respect to any nuclear incident, in the aggregate exceed which ever of the following is the lower: (a) $500,000,000 or (b) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under all applicable agreements.

7. If the licensee is immune from public liability because it is a state agency, the Commission shall make payments under the agreement in the same manner and to the same extent as the Commission would be required to do if the licensee were not such a state agency.

8. The obligations of the Commission under this agreement, except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified or of the estate of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim including such legal costs of the licensee as are approved by the Commission and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnify under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 4 of the Attachment and shall terminate at the time of expiration of that license specified in Item 2 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 4(b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

UNITED STATES NUCLEAR REGULATORY COMMISSION

Indemnity Agreement No. E-———

ATTACHMENT

Item 1—Licensee ————————————
Address ————————————
Item 2—License number or numbers ———
Item 3—Location ————————————

————————————————————

————————————————————

Item 4—The indemnity agreement designated above, of which this Attachment is a part, is effective as of —— m., on the —— day of ————————, 19—.

For the United States Nuclear Regulatory Commission.

By ————————————
For the ————————————
By ————————————
(Name of licensee)

Dated at Bethesda, MD, the —— day of ————————, 19—.

[27 FR 2887, Mar. 29, 1962]

EDITORIAL NOTE: For additional FEDERAL REGISTER citations affecting § 140.95, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 140.96 Appendix F—Indemnity locations.

(a) *Geographical boundaries of indemnity locations.* (1) In every indemnity agreement between the Commission and a licensee which affords indemnity protection for the preoperational storage of fuel at the site of a nuclear power reactor under construction, the geographical boundaries of the indemnity location will include the entire construction area of the nuclear power reactor, as determined by the Commission. Such area will not necessarily be coextensive with the indemnity location which will be established at the time an operating license is issued for such additional nuclear power reactors.

(2) In every indemnity agreement between the Commission and a licensee which affords indemnity protection for an existing nuclear power reactor, the geographical boundaries of the indemnity location shall include the entire construction area of any additional nuclear power reactor as determined by the Commission, built as part of the same power station by the same licensee. Such area will not necessarily be coextensive with the indemnity location which will be established at the time an operating license is issued for such additional nuclear power reactors.

(3) This section is effective May 1, 1973, as to construction permits issued prior to March 2, 1973, and, as to construction permits issued on or after March 2, 1973, the provisions of this section will apply no later than such time as a construction permit is issued authorizing construction of any additional nuclear power reactor.

[38 FR 2984, Jan. 31, 1973]

§ 140.107 Appendix G—Form of indemnity agreement with licensees processing plutonium for use in plutonium processing and fuel fabrication plants and furnishing insurance policies as proof of financial protection.

This Indemnity Agreement No. —— is entered into by and between ———————— (hereinafter referred to as the *licensee*) and the United States Nuclear Regulatory Commission (hereinafter referred to as the *Commission*) pursuant to subsection 170(c) of the Atomic Energy Act of 1954, as amended (hereinafter referred to as *the Act*), and section 201 of the Energy Reoganization Act of 1974, as amended.

ARTICLE I

As used in this agreement:

1. *By product material, person, source material, special nuclear material, precautionary evacuation,* and *extraordinary nuclear occurrence* shall have the meaning given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2. Except where otherwise specifically provided, *amount of financial protection* means the amount specified in Item 2a and b, of the Attachment annexed hereto as modified by paragraph 6, Article II, with respect to common occurrences.

3. (a) *Nuclear incident* means any occurrence including an extraordinary nuclear occurrence, or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence, including an extraordinary nuclear occurrence, or series of occurrences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of:

(i) The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as *the radioactive material* in any other agreement or agreements entered into by the Commission under subsection 170(c) or (k) of the Act and so discharged or dispersed from *the location* as defined in any such other agreement, or

(ii) The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act as *the radioactive material* and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

4. *In the course of transportation* means in the course of transportation within the United States, or in the course of transportation outside the United States and any

other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not by predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporarty storage incidental thereto;

(c) *In the course of transportation* as used in this agreement shall not include transportation of the radioactive material to the location if the material is also *in the course of transportation* from any other *location* as defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act.

5. *Person indemnified* means the licensee and any other person who may be liable for public liability.

6. *Public liability* means any legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political subdivision of a State, in the course of responding to a nuclear incident or precautionary evacuation), except (1) claims under State or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

7. *The location* means the location described in Item 4 of the Attachment hereto.

8. *The radioactive material* means (a) any source, special nuclear, or byproduct material which (1) is both used or to be used in, or is processed or to be processed by, the licensee's plutonium processing and fuel fabrication plant or plants and is subject to the

license or licenses designated in the Attac
ment hereto, or (2) is produces as the resu
of the operation of said plant or plants o
(b) any source, special nuclear, or byprodu
material which is waste or contaminatio
from material described in paragraph 8(a
The words *used or to be used* and *process
or to be processed* in this paragraph cove
source, special nuclear or byproduct mater
al which is *in the course of transportatio*
as used in the agreement or is received a
the plant for use or processing in the pla
but which is, in fact, for any reason, not
used or processed.

9. *United States* when used in a geographi
cal sense includes Puerto Rico and all terr
tories and possessions of the United State

ARTICLE II

1. At all times during the term of the l
cense or licenses designated in Item 3 of th
Attachment hereto, the licensee will mai
tain financial protection in the amou
specified in Item 2 of the Attachment an
in the form of the nuclear energy liabili
insurance policy designated in the Attac
ment. If more than one license is designate
in Item 3 of the Attachment, the licens
agrees to maintain such financial protectio
until the end of the term of that licen
which will be the last to expire. The licens
shall, notwithstanding the expiration, te
mination, modification, amendment, suspe
sion of revocation of any license or licen
designated in Item 3 of the Attachme
maintain such financial protection in effe
until all the radioactive material has bee
removed from the location and transport
tion of the radioactive material from the l
cation has ended as defined in subpar
graph 4(b), Article I, or until the Commi
sion authorizes the termination or the mod
fication of such financial protection. Th
Commission will not unreasonably withho
such authorization.

2. In the event of any payment by the i
surer or insurers under a policy or polici
specified in Item 5 of the Attachme
hereto which reduces the aggregate limit
such policy or policies below the amount
financial protection, the licensee w
promptly apply to his insurers for reinstat
ment of the amount specified in Item 2a
the Attachment (without reference to par
graph b of Item 2) and will make all reaso
able efforts to obtain such reinstatement. I
the event that the licensee has not obtaine
reinstatement of such amount within ninet
days after the date of such reduction, and
the absence of good cause shown to the co
trary, the Commission may issue an ord
requiring the licensee to furnish financi
protection for such amount in anoth
form.

3. Any obligations of the licensee und
subsection 53e(8) of the Act to indemni

the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment hereto, shall not in the aggregate exceed the amount of financial protection with respect to any nuclear incident, including the reasonable costs of investigating and settling claims and defending suits for damage.

4. The obligations of the licensee under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

5. Upon the expiration or revocation of any license designated in Item 3 of the Attachment, the Commission will enter into an appropriate amendment of this agreement with the licensee reducing the amount of financial protection required under this Article: provided, that the licensee is then entitled to a reduction in the amount of financial protection under applicable Commission regulations and orders.

6. With respect to any common occurrence,

(a) If the sum of the limit of liability of any Nuclear Energy Liability-Property Insurance Association policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Nuclear Energy Liability-Property Insurance Association exceeds $155,000,000, the amount of financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $155,000,000 as the limit of liability of the Nuclear Energy Liability-Property Insurance Association policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Nuclear Energy Liability-Property Insurance Association;

(b) If the sum of the limit of liability of any Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters exceeds $45,000,000, the amount of financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $45,000,000 as the limit of liability of the Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters;

(c) If any of the other applicable agreements is with a person who has furnished financial protection in a form other than a nuclear energy liability insurance policy (facility form) issued by Nuclear Energy Liability-Property Insurance Association or Mutual Atomic Energy Liability Underwriters, and if also the sum of the amount of financial protection established under this agreement and the amounts of financial protection established under all other applicable agreements exceeds an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection, the obligations of the licensee shall not exceed a greater proportion of an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements.

(d) As used in this paragraph 6., Article II and in Article III, *other applicable agreements* means each other agreement entered into by the Commission pursuant to subsection 170(c). of the Act in which agreement the nuclear incident is defined as a *common occurrence*. As used in this paragraph 6., Article II, *the obligations of the licensee* means the obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment, and the reasonable costs incurred by the insurers in investigating and settling claims and defending suits for damage.

7. The obligations of the licensee under this Article shall not be affected by any failure or default on the part of the Commission or the Government of the United States to fulfill any or all of its obligations under this agreement. Bankruptcy or insolvency of any person indemnified other than the licensee, or of the estate of any person indemnified other than the licensee, shall not relieve the licensee of any of its obligations hereunder.

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obli-

gation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location described in Item 4 of the Attachment or at the location described in Item 3 of the declarations attached to any nuclear energy liability insurance policy designated in Item 5 of the Attachment;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the raidoactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

3. [Reserved]

4.(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed $200,000,000.

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not, with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest: (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements.

7. The obligations of the Commission under this agreement, except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified, or of the estate of the licensee or any other person indemnified, shall not relieve the Commission of any of its obligations hereunder.

ARTICLE IV

1. When the Commission determines that the United States will probably be required
to make indemnity payments under the p
visions of this agreement, the Commis
shall have the right to collaborate with
licensee and other persons indemnified
the settlement and defense of any cl
(provided that no government indemn
that would otherwise be available to
public liability claims is used for these p
poses) and shall have the right (a) to
quire the prior approval of the Commis
for the settlement or payment of any cl
or action asserted against the licensee
other person indemnified for public liabi
or damage to property of persons leg
liable for the nuclear incident which cl
or action the licensee or the Commis
may be required to indemnify under
agreement; and (b) to appear through
Attorney General of the United States
behalf of the licensee or other person
demnified, take charge of such action
settle or defend any such action. If the
tlement or defense of any such action
claim is undertaken by the Commission,
licensee shall furnish all reasonable as
ance in effecting a settlement or assertin
defense.

2. Neither this agreement nor any inter
therein nor claim thereunder may be
signed or transferred without the appro
of the Commission.

ARTICLE V

The parties agree that they will enter i
appropriate amendments of this agreeme
to the extent that such amendments are
quired pursuant to the Atomic Energy
of 1954, as amended, or licenses, regulatio
or orders of the Commission.

ARTICLE VI

The licensee agrees to pay the Comm
sion such fees as are established by
Commission pursuant to regulations
others of the Commission.

ARTICLE VII

The term of this agreement shall co
mence as of the date and time specified
Item 6 of the Attachment and shall ter
nate at the time of expiration of that
cense specified in Item 3 of the Attachme
which is the last to expire; provided th
execpt as may otherwise be provided in
plicable regulations or orders of the Co
mission, the term of this agreement sh
not terminate until all the radioactive ma
rial has been removed from the location a
transportation of the radioactive mate
from the location has ended as defined
paragraph 4(b), Article I. Termination
the term of this agreement shall not aff
any obligation of the licensee or the Co
mission under this agreement with resp

to any nuclear incident occurring during the term of this agreement.

UNITED STATES NUCLEAR REGULATORY COMMISSION

ATTACHMENT

Indemnity Agreement No. ——————

Item 1—Licensee. ——————————

Item 2—

a. Amount of financial protection ———

b. With respect to any nuclear incident, the amount specified in Item 2a of this Attachment shall be deemed to be (i) reduced to the extent that any payment made by the insurer or insurers under a policy or policies specified in Item 5 of this Attachment reduces the aggregate amount of such insurance policies below the amount specified in Item 2a and (ii) restored to the extent that, following such reduction, the aggregate amount of such insurance polices is reinstated.

Item 3—License number or numbers———

————————————————————

Item 4—Location ——————————

————————————————————

Item 5—Insurance Policy No.(s)—————

————————————————————

Item 6—The indemnity agreement designated above, of which this Attachment is a part, is effective as of 12:01 a.m., on the —— day of —, 19—.

For the U.S. Nuclear Regulatory Commission.

For————————————————

By ————————————————

Dated at Bethesda, MD, the ———

day of——— 19—.

[42 FR 51, Jan. 3, 1977, as amended at 42 FR 20141, Apr. 18, 1977; 44 FR 20633, Apr. 6, 1979; 44 FR 24045, Apr. 24, 1979; 45 FR 37410, June 3, 1980; 49 FR 11152, Mar. 26, 1984; 54 FR 24160, June 6, 1989]

§ 140.108 Appendix H—Form of indemnity agreement with licensees possessing plutonium for use in plutonium processing and fuel fabrication plants and furnishing proof of financial protection in the form of the licensee's resources.

This Indemnity Agreement No. —— is entered into by and between —— (hereinafter referred to as the *licensee*) and the United States Nuclear Regulatory Commission (hereinafter referred to as the *Commission*) pursuant to subsection 170(c) of the Atomic Energy Act of 1954, as amended (hereinafter referred to as *the Act*), and Section 201 of the Energy Reorganization Act of 1974, as amended.

ARTICLE I

As used in this agreement:

1. *Byproduct material, person, source material, special nuclear material, precautionary evacuation,* and *extraordinary nuclear occurrence* shall have the meaning given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2. *Amount of financial protection* means the amount specified in Item 2 or the Attachment annexed hereto.

3. *Nuclear incident* means any occurrence including an extraordinary nuclear occurrence, or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence, including an extraordinary nuclear occurrence of series of occurrences causing bodily injury, sickness, disease or death, or loss or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as *the radioactive material* in any other agreement or agreements entered into by the Commission under subsection 170(c) or (k) of the Act and so discharged or dispersed from *the location* as defined in any such other agreement, or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into the Commission pursuant to subsection 170(c) or (k) of the Act as *the radioactive material* and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence whall be deemed to constitute a single nuclear incident.

4. *In the course of transportation* means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not be predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto:

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto:

(c) *In the course of transportation* as used in this agreement shall not include transportation of the radioactive material to the location if the material is also *in the course of transportaion* from any other *location* as defined in any other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act.

5. *Person indemnified* means the licensee and any other person who may be liable for public liability.

6. *Public liability* means any legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political subdivision of a State, in the course of responding to a nuclear incident or precautionary evacuation), except (1) claims under State or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

7. *The location* means the location described in Item 4 of the Attachment hereto.

8. *The radioactive material* means (a) any source, special nuclear, or byproduct material which (1) is both used or to be used in, or is processed or to be processed by, the licensee's plutonium processing and fuel fabrication plant or plants and is subject to the license or licenses designated in the Attachment hereto, or (2) is produced as the result of the operation of said plant or plants or (b) any source special nuclear, or byproduct material which is waste or contamination from material described in paragraph 8(a). The words *used or to be used* and *processed or to be processed* in this paragraph cover source, special nuclear or byproduct material which is *in the course of transportation*

as used in the agreement or is received
the plant for use or processing in the pla
but which is, in fact, for any reason, not
used or processed.

9. *United States* when used in a geograp
cal sense includes Puerto Rico and all ter
tories and possessions of the United Stat

ARTICLE II

1. The licensee undertakes and agrees
indemnify and hold harmless all persons
demnified, as their interest may appe
from public liability.

2. With respect to damage caused by a n
clear incident to property of any person
gally liable for the incident, the licen
agrees to pay to such person those su
which such person would have been oblig
ed to pay if such property had belonged
another; provided, that the obligation of t
licensee under this paragraph 2 does n
apply with respect to:

(a) Property which is located at the lo
tion and used in connection with the lice
ee's possession, use or transfer of the rad
active material;

(b) Property damage due to neglect of t
person indemnified to use all reasonab
means to save and preserve the proper
after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in t
course of transportation of the radioacti
material, the transporting vehicle and co
tainers used in such transportation; and

(d) The radioactive material.

3. Any obligations of the licensee und
paragraphs 1 and 2 of this Article, and su
section 53e(8) of the Act to indemnify t
United States and the Commission fro
public liability shall not in the aggrega
exceed the amount of financial protectio
with respect to any nuclear incident.

4. The obligations of the licensee und
this agreement shall apply only with respe
to nuclear incidents occurring during t
term of this agreement.

5. Upon the expiration or revocation
any license designated in Item 3 of the A
tachment, the Commission will enter in
an appropriate amendment of this agre
ment with the licensee reducing the amou
of financial protection required under th
Article; provided, that the licensee is the
entitled to a reduction in the amount of
nancial protection under applicable Co
mission regulations and orders.

6. With respect to any common occu
rence, if the sum of the amount of financi
protection established under this agreeme
and the amount of financial protection
tablished under all other applicable agre
ments exceeds an amount equal to the su
of $200,000,000 and the amount available
secondary financial protection, the oblig
tions of the licensee described in paragra
3 of this Article shall not exceed a great

proportion of an amount equal to the sum of $200,000,000 and the amount available as secondary financial protection than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements. As used in this paragraph, and in Article III, *other applicable agreements* means each other agreement entered into by the Commission pursuant to subsection 170(c) or (k) of the Act in which agreement the nuclear incident is defined as a *common occurrence.*

7. The obligations of the licensee under this Article shall not be affected by any failure or default on the part of the Commission or the Government or the United States to fulfill any or all of its obligations under this agreement. Bankruptcy or insolvency of any person indemnified other than the licensee, or of the estate of any person indemnified other than the licensee shall not relieve the licensee of any of its obligations hereunder.

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

3. [Reserved]

4(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed $200,000,000.

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not, with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest; (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements.

7. The obligations of the Commission under this agreement, except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified, or of the estate of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other persons indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnity under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting defense.

2. Neither this agreement nor any interest therein nor claim thereunder may be as-

signed or transferred without the approval of the Commission.

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 5 of the Attachment and shall terminate at the time of expiration of that license specified in Iem 3 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in paragraph 4(b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

UNITED STATES NUCLEAR REGULATORY COMMISSION

ATTACHMENT

Indemnity Agreement No. ——————
Item 1—Licensee ——————
Item 2—Amount of financial protection—
Item 3—License number or numbers———
Item 4—Location ——————

Item 5—The indemnity agreement designated above, of which this Attachment is a part, is effective as of 12:01 a.m., on the —— day of —— 19—.

Dated at Bethesda, MD, the —— day of —— 19—.

For the U.S. Nuclear Regulatory Commission.

For——————
By ——————

[42 FR 53, Jan. 3, 1977, as amended at 42 FR 20142, Apr. 18, 1977; 42 FR 23501, May 9, 1977; 44 FR 20633, Apr. 6, 1979; 44 FR 24045, Apr. 24, 1979; 45 FR 37410, June 3, 1980; 49 FR 11152, Mar. 26, 1984; 54 FR 24161, June 6, 1989]

§ 140.109 Appendix I.

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

MASTER POLICY NO. ——

Nuclear Energy Liability Insurance

(Secondary Financial Protection)

Named Insured: Each person or organization designated in Item 1 of a *certificate*.

Policy Period: Beginning on the first da of August, 1977, and continuing to the effective date and time of the cancellation o other termination of this policy, easter standard time.

Limits of Liability: The amount of retrospective premium actually received by th companies plus the amount of the companies' contingent liability, if any, pursuant t Conditions 2, 3, and 4.

Date of Issue ——————
Authorized Representative ——————

In consideration of the payment of th annual premium, in reliance upon the statements in the *certificates* and subject to th limits of liability, conditions and othe terms of this Master Policy, the undersigned members of Nuclear Energy Liabilit Insurance Association (hereinafter calle the *companies*), each for itself, severall and not jointly, and in the respective proportions herein set forth, and the *insured* named in the *certificates*, agree as follows

INSURING AGREEMENTS

I. NUCLEAR ENERGY LIABILITY INSURANCE

(*Secondary Financial Protection*)

To pay on behalf of or to the *insured* or t the *insured's* workers' compensation carri all sums payable as *excess losses* to whic this Master Policy applies.

II. DEFINITIONS

Bodily injury means bodily injury, sickness or disease, including death resultin therefrom, sustained by any person.

Certificate means a Certificate of Insu ance, including Declarations and Bond fo Payment of Retrospective Premiums, issue to be a part of this Master Policy.

Common nuclear occurrence means a occurrence or series of occurrences causin *bodily injury* or *property damage* arising ou of the radioactive, toxic, explosive, or othe hazardous properties of *nuclear material*

(a) Discharged or dispersed from a nucle reactor described in Item 3 of a *certifica* over a period of days, weeks, months, o longer, or

(b) Discharged or dispersed from a nucl ar reactor described in Item 3 of a *certi cate* over a period of days, weeks, months longer and also arising out of such properties of *nuclear material* so discharged or dispersed from one or more other nuclear reactors described in Item 3 of other *certificates*, or

(c) In the course of transportation for which protection is afforded (or would be afforded but for exhaustion of its limit of liability) under the *primary financial protection* described in Item 4 of a *certificate* and also arising out of such properties of nuclear material in the course of transportation for which protection is afforded (or would be afforded but for exhaustion of its limit of liability) under the *primary financial protection* described in Item 4 of one or more other *certificates*.

Damages and claim expenses includes sums estimated by the companies to be payable under this policy and payments made by the companies under this Master Policy:

(a) In settlement of claims and in satisfaction of judgments against the *insureds* for damages because of *bodily injury* or *property damage*;

(b) For (1) costs taxed against an *insured* in any suit against the *insured* seeking damages payable under the terms of this Master Policy and interest on any judgment therein, (2) premiums on appeal bonds and bonds to release attachments in any such suit and (3) reasonable expenses, other than loss of earnings, incurred by the *insured* at the companies' request;

(c) For expenses incurred in the investigation, negotiation, settlement and defense of any claim or suit including, but not limited to, the cost of such services by salaried employees of the companies, fees and expenses of independent adjusters, attorneys' fees and disbursements, expenses for expert testimony, inspection and appraisal of property, examination, X-ray or autopsy or medical expenses of any kind;

(d) For expenses incurred by the companies in investigating a *nuclear incident* or in minimizing its effects;

(e) For all other expenses of the companies in fulfilling their obligations under this Master Policy, provided that such expenses are reasonable and necessary.

Excess losses means all *damages and claim expenses*

(a) Because of *bodily injury* or *property damage* to which a *certificate* applies, and

(b) Which are excess of all sums paid or payable as estimated by the companies under all applicable *primary financial protection*.

Extraordinary nuclear occurrence has the meaning given it in the Atomic Energy Act of 1954, or in any law amendatory thereof.

Insured means any person or organization identified in Item 1 or 2 of a *certificate*.

Nuclear incident means

(a) An *extraordinary nuclear occurrence*, or

(b) A *common nuclear occurrence*, or if neither of these,

(c) An occurrence or series of occurrences, including continuous or repeated exposure to substantially the same general conditions, causing *bodily injury* or *property damage* arising out of the radioactive, toxic, explosive, or other hazardous properties of *nuclear material*.

Nuclear material means *source material*, *special nuclear material* or *byproduct material*.

Primary financial protection means the insurance policies or other contracts identified in Item 4 of a *certificate* and includes any amendment thereto which is consented to by the companies pursuant to Condition 6 of this Master Policy.

Property damage means physical injury to or destruction or radioactive contamination of property, and loss of use of property so injured, destroyed or contaminated, and loss of use of property while evacuated or withdrawn from use because possibly so contaminated or because of imminent danger of such contamination.

Source material, *special nuclear material*, and *byproduct material* have the meanings given them in the Atomic Energy Act of 1954, or in any law amendatory thereof.

III. APPLICATION OF POLICY

Insurance is provided by this Master Policy only through a *certificate*. No insurance is afforded with respect to *bodily injury* or *property damage* caused prior to August 1, 1977 by a *nuclear incident*.

CONDITIONS

1. ANNUAL PREMIUM

The named insureds designated in a *certificate* shall pay to the companies the annual premium for each calendar year or part thereof.

Such annual premium shall be determined by the companies and stated in a written notice mailed to the first named insured shown in Item 1 of a *certificate*, and shall be due and payable as stated in such notice.

2. RETROSPECTIVE PREMIUM

The named insureds designated in a *certificate* shall pay to the companies retrospective premium in the event of *excess losses* due to *bodily injury* or *property damage* caused during their *certificate* period by a *nuclear incident* arising out of or in connection with a nuclear reactor described in Item 3 of the *certificate* or in Item 3 of any other *certificate*. The amount of retrospective premium-due under each *certificate* shall be determined by multiplying such *excess losses* by the ratio of the maximum retrospective premium payable with respect to the *nuclear incident* under the *certificate* to the total of the maximum retrospective premiums payable with respect to the *nuclear incident* under all such *certificates.*

If any portion of the *bodily injury* or *property damage* to which this Master Policy applies is caused during any portion of a *certificate* period by a *nuclear incident*, the retrospective premium the named insureds designated in such *certificate* are obligated to pay shall be determined as if all *bodily injury* or *property damage* to which this Master Policy applies caused by the *nuclear incident* had been caused during the *certificate* period of such *certificate.*

The maximum retrospective premium that the named insureds designated in a *certificate* shall pay to the companies for all *excess losses* arising out of any one *nuclear incident* is the amount stated in Item 7 of their *certificate.*

In the event of two more *nuclear incidents*, the maximum amount of retrospective premium that shall be due from and payable by the named insureds in one calendar year shall not exceed twice the amount stated in Item 7 of their *certificate.* Any amount in excess thereof shall be paid in subsequent calendar years as billed by the companies.

In addition, an allowance for applicable premium taxes shall be determined by the companies and paid to them by the named insureds at the time retrospective premiums are due and payable.

After a *nuclear incident* resulting in *excess losses*, the companies shall mail to the first named insured designated in Item 1 of a *certificate* written notice of the retrospective premium and allowance for premium taxes then due under such *certificate*. Such notice shall also constitute notice to all other named insureds designated in such *certificate*. The named insureds shall pay directly to the Nuclear Energy Liability Insurance Association the retrospective premium and allowance for premium taxes stated in the notice. The notice shall specify a date no earlier than 60 days after mailing by which time payment is to be received by the Nuclear Energy Liability Insurance Association.

The companies shall at least annually review their estimate of *excess losses* arising out of the *nuclear incident* and shall adjust the retrospective premium and allowance for premium taxes accordingly. If the amount due from the named insureds is increased, written notice shall be mailed to the first named insured in accordance with the foregoing paragraph; if deceased the companies shall return the excess to the first named insured.

The obligation of the named insureds to pay retrospective premium and the allowance for premium taxes for *excess losses* arising out of a *nuclear incident* shall continue until the named insureds have p
the maximum retrospective premium sta
in Item 7 of their *certificate* plus allowa
for premium taxes.

The companies shall send to the Nucl
Regulatory Commission summaries of th
estimates of *excess losses* arising out of
nuclear incident and their computation
retrospective premium and the allowa
for premium taxes due.

All retrospective premium (but not the
lowance for premium taxes) received by
companies is to be held by the compan
separate from the companies' other as
and is to be used by the companies only
the purpose of paying *excess losses.* Any
vestment income received by the compan
from such retrospective premium sh
accrue to the benefit of the named insure
This paragraph shall not apply to any ret
spective premium received by the compan
as reimbursement for any funds expend
pursuant to Condition 4.

No commission will be paid with respect
retrospective premium and allowance
premium taxes.

3. LIMIT OF LIABILITY

Regardless of the number of

(a) Persons or organizations who are
sureds under this Master Policy, or

(b) Claims made and suits brought agai
any and all *insureds*, or

(c) Policies or contracts of *primary fin*
cial protection or *certificates* which ap
to the *nuclear incident*, or

(d) Years this Master Policy and any c
tificate shall continue in force,

The total liability of the companies und
this Master Policy for all *excess losses* a
ing out of any *nuclear incident* shall n
exceed the amount of retrospective pre
um actually received by the companies p
suant to Condition 2 with respect to su
nuclear incident plus the companies' cont
gent liability, if any, as determined by C
dition 4. Reimbursement of the compan
for funds expended pursuant to Conditio
shall not operate to increase the total lia
ity of the companies.

4. CONTINGENT LIABILITY OF THE COMPANIE

The companies have a contingent liabil
under this Master Policy for payment
excess losses but only if, and to the ext
that, the retrospective premium due und
one or more *certificates* is not paid. In t
event of any such failure to pay retrosp
tive premiums, the companies' obligatio
under this Condition 4 are limited as f
lows:

Regardless of the number of *nuclear in*
dents which cause *bodily injury* or *prope*
damage to which this Master Policy appli
the number of years this Master Policy is

force, the number of *certificates* issued or in effect, or the number of annual premiums paid or payable.

(a) The total contingent liability of the companies for all *excess losses* arising out of two or more *nuclear incidents* shall not exceed $46,500,000;

(b) Subject to the above provision (a), the total contingent liability of the companies for all *excess losses* arising out of any one *nuclear incident* shall not exceed $23,250,000;

(c) Subject to the above provisions (a) and (b), the maximum amount to be paid by the companies in any one calendar year because of contingent liability for *excess losses* shall not exceed $23,250,000.

If a named insured designated in a *certificate* shall become insolvent or be adjudged bankrupt, the companies' obligation under this Condition 4 shall not apply to the failure of any named insured designated in such *certificate* to pay retrospective premium with respect to *excess losses* because of *bodily injury* or *property damage* caused after the date of such insolvency or bankruptcy.

5. INVESTIGATION, DEFENSE OR SETTLEMENT OF CLAIMS OR SUITS

Subject to the provisions of any written agreement between the companies and the Nuclear Regulatory Commission, the companies shall defend any claim or suit alleging *bodily injury* or *property damage* caused by a *nuclear incident* and seeking damages which are payable under this Master Policy, and may make such investigation and settlement of any claim or suit as they deem expedient. In no event shall the companies be obligated to pay any claim or judgment or to defend any claim or suit after the companies have paid the amount of retrospective premium actually received for *excess losses* arising out of the *nuclear incident* plus the amount of their contingent liability, if any.

6. PRIMARY FINANCIAL PROTECTION

Regardless of the number of policies or contracts of *primary financial protection* applicable to a *nuclear incident*, the limit of liability of all such policies or contracts shall be deemed to be exhausted when the sums paid under all such policies or contracts are equal to the lesser of (1) the sum of the limits of liability available under all such primary financial protection or (2) one hundred forty million dollars.

The named insured designated in a *certificate* shall maintain in full effect during the currency of such *certificate* the *primary financial protection* described therein, except for any reduction of the limit of liability of such *primary financial protection* solely as the result of sums paid thereunder. Failure of the named insureds to comply with the foregoing shall not invalidate this Master Policy, but in the event of such failure the companies shall be liable only to the extent that they would have been liable and the named insureds complied therewith.

In the event that the limit of liability of the *primary financial protection* is reduced, such names insureds shall immediately inform the companies thereof and make all reasonable efforts to reinstate such limit.

Upon the companies' request the named insureds shall provide the companies with a certified copy of any policy or other contract of *primary financial protection*. No amendment of the *primary financial protection* shall increase, extend or broaden the insurance provided by this Master Policy unless the companies agree to the amendment by an endorsement issued to form a part of this Master Policy.

7. INTEREST TO BE PAID BY NAMED INSURED ON RETROSPECTIVE PREMIUM AND ALLOWANCE FOR PREMIUM TAXES IN DEFAULT

If retrospective premium or allowance for premium taxes is not paid when due by the named insureds designated in Item 1 of a *certificate*, such named insureds shall be obligated to pay, in addition to the amount in default, interest thereon during the period of default. Such interest shall be computed at an annual rate equal to the sum of (a) three percent plus (b) a rate of interest equal to Moody's Average Public Utility Bond Yield described in the issue of Moody's Bond Survey current on the date that the retrospective premium and allowance for premium taxes were due. The annual rate of interest shall be adjusted monthly during the period of default to reflect any revisions of Moody's Average Public Utility Bond Yield described in the issue of Moody's Bond Survey current on the first business day of each such month.

The interest so received shall be used to pay to the companies interest at the annual rate described above for any funds the companies have paid pursuant to Condition 4. Any balance remaining shall accrue to the benefit of named insureds not in default as if it were investment income on retrospective premium.

8. NOTICE OF NUCLEAR INCIDENT, CLAIM OR SUIT

In the event of *bodily injury* or *property damage* to which this Master Policy applies or of a *nuclear incident* which may give rise to claims therefor, written notice containing particulars sufficient to identify the *insured* and also reasonably obtainable information with respect to the time, place and circumstances thereof, and the names and addresses of the injured and of available witnesses, shall be given by or for the *insured* to Nuclear Energy Liability Insurance Association or the companies as soon as practicable. If claim is made or suit is brought against the *insured*, the *insured* shall immediately forward to Nuclear Energy Liability Insurance Association or the companies every demand, notice, summons or other process received by or on behalf of the *insured*.

9. ASSISTANCE AND COOPERATION OF THE INSURED

The *insured* shall cooperate with the companies and, upon the companies' request, attend hearings and trials and assist in making settlements, in securing and giving evidence, in obtaining the attendance of witnesses and in the conduct of any legal proceedings in connection with the subject matter of this insurance. The *insured* shall not, except at the *insured's* own cost, make any payment, assume any obligation or incur any expense.

10. ACTION AGAINST COMPANIES

No action shall lie against the companies or any of them unless, as a condition precedent thereto, the *insured* shall have fully complied with all the terms of this Master Policy, nor until the amount of the *insured's* obligation to pay shall have been finally determined either by judgment against the *insured* after actual trial or by written agreement of the *insured*, the claimant and the companies.

Any person or organization or the legal representative thereof who has secured such judgment or written agreement shall thereafter be entitled to recover under this Master Policy to the extent of the insurance afforded by this Master Policy. No person or organization shall have any right under this Master Policy to join the companies or any of them as parties to any action against the *insured* to determine the *insured's* liability, nor shall the companies or any of them be impleaded by the *insured* or the *insured's* legal representative. Except as provided in Condition 4, bankruptcy or insolvency of the *insured* or of the *insured's* estate shall not relieve the companies of any of their obligations hereunder.

11. SUBROGATION

In the event of any payment under this Master Policy, the companies may participate with the *insured* and any underlying insurer in the exercise of all the *insured's* rights of recovery against any person or organization liable therefor. Prior to knowledge of *bodily injury* or *property damage* to which this Master Policy applies or of a *nuclear incident* which may give rise to claims therefor, the *insured* may waive in writing any right of recovery against any person or organization. After such knowledge, the *insured* shall not waive or otherwise prejudice any such right of recovery but shall do everything necessary to secure such righ
Recoveries shall be applied first to re
burse any person or organization (includ
the *insured*) that may have paid
amount with respect to liability in exces
the limit of the companies' liability here
der; then to reimburse the companies up
the amount paid hereunder; and lastly to
imburse anyone entitiled to claim the r
due, if any. A different apportionm
maybe made by agreement signed by all p
ties affected.

Reasonable expenses incurred in the ex
cise of rights of recovery shall be app
tioned in the ratio of the respective los
for which recovery is sought. The com
nies shall, after deducting all of their
penses in securing recovery, apply the
amount of recoveries made by the com
nies as a credit in determining the amo
of *excess* losses.

12. OTHER INSURANCE

This insurance shall be *excess* insura
over *primary financial protection*.

This insurance is concurrent with ins
ance afforded by a Master Policy—Nuc
Energy Liability Insurance (Secondary
nancial Protection) issued to the named
sured by Mutual Atomic Energy Liabi
Underwriters, hereinafter called *concurr*
insurance. The companies shall not
liable under this Master Policy for a grea
proportion of *excess losses* than the appli
ble limit of liability described in Conditio
bears to the sum of (a) such limit plus
the applicable limit of liability of such c
current insurance.

If the *insured* has other valid and colle
ible insurance (other than *primary fin*
cial protection or concurrent insurance)
plicable to *excess losses* covered by t
Master Policy, the insurance afforded
this Master Policy shall be primary ins
ance under such other insurance.

13. CHANGES

Notice to any agent or knowledge
sessed by any agent or by any other per
shall not effect a waiver or a change in
part of this Master Policy or estop the co
panies from asserting any right under
terms of this Master Policy; nor shall
terms of this Master Policy be waived
changed, except by endorsement execu
by Nuclear Energy Liability Insurance A
ciation on behalf of the companies
issued to form a part of this Master Pol

14. ASSIGNMENT

Assignment of interest by the named
sured shall not bind the companies u
their consent is endorsed hereon; if, how
er, the named insured shall die or be
clared bankrupt or insolvent, this Ma

Policy shall cover such named insured's legal representative, receiver or trustee as an *insured* under this Master Policy, but only with respect to such legal representative's, receiver's or trustee's liability as such, and then only provided written notice of the legal representative's, receiver's or trustee's appointment as such is given to the companies within ten days after such appointment.

15. CUSTODIAN OF THE POLICY—NUCLEAR REGULATORY COMMISSION

The named insureds have designated the Nuclear Regulatory Commission as the custodian of this Master Policy and any endorsements thereto.

16. CANCELLATION

The first named insured designated in Item 1 of a *certificate* may cancel such *certificate* by mailing to the companies and the Nuclear Regulatory Commission written notice stating when, not less than thirty days thereafter, such cancellation shall be effective.

The companies may cancel any *certificate* by mailing to the first named insured designated in Item 1 of such *certificate* written notice stating when, not less than ninety days thereafter, such cancellation shall be effective; provided that in the event of nonpayment of any annual premium, retrospective premium or allowance for premium taxes due under a *certificate*, such *certificate* may be canceled by the companies by mailing to the first named insured designated therein written notice stating when, not less than thirty days thereafter, such cancellation shall be effective.

The mailing of notice as aforesaid shall be sufficient proof of notice. The effective date and time of cancellation stated in the notice shall become the end of the *certificate* period. Delivery of such written notice, either by the first named insured designated in Item 1 of a *certificate* or by the companies, shall be equivalent to mailing.

A copy of the companies' cancellation notice shall be mailed to the Nuclear Regulatory Commission, but mailing such copy is not a condition of cancellation.

If a *certificate* is canceled, the earned portion of the annual premium shall be computed pro-rata. Adjustment of the annual premium, if any, may be made either at the time cancellation is effective or as soon as practicable after cancellation becomes effective, but payment or tender of unearned premium is not a condition of cancellation.

Cancellation or termination of any *certificate* shall not terminate the obligation of a named insured to pay retrospective premium and the allowance for premium taxes as provided in such named insured's *certificate* and Condition 2 of this Master Policy.

This Master Policy shall terminate automatically on the effective date and time of cancellation or termination of the last *certificate* in effect.

17. COMPANY REPRESENTATION

(a) Any notice, sworn statement or proof of loss which may be required by the provisions of this Master Policy may be given to any one of the companies, and such notice, statement or proof of loss so given shall be valid and binding as to all companies.

(b) In any action or suit against the companies, service of process may be made on any one of them and such service shall be deemed valid and binding service on all companies.

(c) Nuclear Energy Liability Insurance Association is the agent of the companies with respect to all matters pertaining to this insurance. All notices or other communications required by this Master Policy to be given to the companies may be given to such agent, at its office at The Exchange, Suite 245, 270 Farmington Avenue, Farmington, Connecticut—06032 with the same force and effect as if given directly to the companies. Any requests, demands or agreements made by such agent shall be deemed to have been made directly by the companies.

18. AUTHORIZATION OF FIRST NAMED INSURED

Except with respect to compliance with the obligations imposed on the *insured* by Conditions 8, 9, 10 and 11 of this Master Policy, the first named insured designated in Item 1 of a *certificate* is authorized to act for every other person and organization insured under such *certificate* in all matters pertaining to this insurance.

19. CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY

The members of Nuclear Energy Liability Insurance Association subscribing this Master Policy, and the proportionate liability of each, may change from time to time.

Each company subscribing this Master Policy upon its issuance shall be liable only for its stated proportion of any obligation assumed or expense incurred under this Master Policy because of *bodily injury* or *property damage* caused during the period from the effective date of this Master Policy to the close of December 31 next following. For each subsequent calendar year, beginning January 1 next following the effective date of this Master Policy, the subscribing companies and the proportionate liability of each such company shall be stated in an endorsement issued to form a part of this Master Policy, duly executed by the President of Nuclear Energy Liability Insurance Association on behalf of each such company, and mailed or delivered to the Nuclear Regulatory Commission.

20. DECLARATIONS

By acceptance of this Master Policy, the named insureds designated in a *certificate* agree that the statements in such *certificate* are their agreements and representations, that this Master Policy and such *certificate* are issued in reliance upon the truth of such representations and that this Master Policy and such *certificate* embody all agreements between such named insureds and the companies or any of their agents relating to this insurance.

In witness whereof each of the subscribing companies has caused this Master Policy to be executed on its behalf by the Nuclear Energy Liability Insurance Association and duly countersigned on the first page by an authorized representative.

For the Subscribing Companies of NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION
By:
Burt C. Proom,
President.

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

Certificate No. ————————————
Forming Part of Master Policy No. ————

CERTIFICATE OF INSURANCE DECLARATIONS AND BOND FOR PAYMENT OF RETROSPECTIVE PREMIUMS

Certificate of Insurance

This is to certify that the persons and organizations designated in Item 1 of the Declarations are named insureds under the Master Policy—Nuclear Energy Liability Insurance (Secondary Financial Protection), herein called the *Master Policy*, issued by Nuclear Energy Liability Insurance Association.

Such insurance as is provided by the Master Policy applies, through this *certificate*, only:

(a) to the *insureds* identified in Items 1 and 2 of the Declarations,

(b) for the *certificate* period stated in Item 6 of the Declarations,

(c) to *bodily injury* or *property damage*

(1) with respect to which the *primary financial protection* described in Item 4 of the Declarations would apply but for exhaustion of its limit of liability as described in Condition 6 of the Master Policy, and

(2) which is caused during the *certificate* period stated in Item 6 of the Declarations by a *nuclear incident* arising out of or in connection with the nuclear reactor described in Item 3 of the Declarations, and

(3) which is discovered and for which written claim is made against the *injured* not later than ten years after the end of the *certificate* period stated in Item 6 of the Declarations. However, with respect to *bodily injury* or *property damage* caused by an *extraordinary nuclear occurrence* this subparagraph (3) shall not operate to bar coverage for *bodily injury* or *property damage* which is discovered and for which written claim is made against the *insured* not later than twenty years after the date of the *extraordinary nuclear occurrence.*

DECLARATIONS

Item 1. Named insureds and addresses:
(a)
(b)

Item 2. Additional *insureds:*

Any other person or organization who would be insured under the *primary financial protection* identified in Item 4 of the Declarations but for exhaustion of the limit of liability of such *primary financial protection.*

Item 3. Description and location of nuclear reactor:

Item 4. (a) Identification of *primary financial protection* applicable to the nuclear reactor and limit(s) of liability thereof:

Nuclear Energy Liability Insurance Association's Policy NF- $108,500,000
Mutual Atomic Energy Liability Underwriters' Policy MF- $31,500,000

(b) The following endorsements, attached to the *primary financial protection* policies listed in Item 4(a) also apply to the insurance afforded by the Master Policy through this *certificate* as though they were attached hereto:

(1) Waiver of Defense Endorsement (Extraordinary Nuclear Occurrence) and

(2) Supplementary Endorsement—Waiver of Defenses—Reactor Construction at the Facility,

(c) The limits of liability provided under the *primary financial protection* specified in Item 4(a) above are not shared with any other reactor except as follows:

Item 5. Limits of Liability: The amount of retrospective premium actually received by the companies plus the amount of the companies' contingent liability, if any, pursuant to Conditions 2, 3 and 4 of the Master Policy.

Item 6. *Certificate* Period: Beginning at 12:01 a.m. on ———————— and continuing to the effective date and time of cancellation or termination of the Master Policy or this *certificate*, whichever first occurs, eastern standard time.

Item 7. Maximum retrospective premium (exclusive of allowance for premium taxes) payable pursuant to Condition 2 of the Master Policy with respect to each *nuclear incident:* $3,875,000.

Item 8. Premium payable pursuant to Condition 1 of the Master Policy for the period from ———— through December 31 following: $——.

BOND FOR PAYMENT OF RETROSPECTIVE PREMIUMS

Know All Men By These Presents, that the undersigned do hereby acknowledge that they are named insureds under the Master Policy described in the above Certificate of Insurance and Declarations. The named insureds do hereby convenant with and are held and are firmly bound to the members of Nuclear Energy Liability Insurance Association subscribing the Master Policy (hereinafter called the *companies*) to pay the companies all retrospective premiums and allowances for premium taxes which shall become due and payable in accordance with the Master Policy, as it may be changed from time to time, with interest on such premiums and allowances for taxes to be computed at the rate provided in the Master Policy from the date payment thereof is specified to be due the companies in written notice to the first named insured as provided in Condition 2 of the Master Policy until paid;

And it is hereby expressly agreed that copies of written notices of retrospective premiums and allowances for premium taxes due and payable or other evidence of such amounts due and payable sworn to by a duly authorized representative of the companies shall be prima facie evidence of the fact and extent of the liability of the named insureds for such amounts;

And it is further expressly agreed that the named insureds will indemnify the companies against any and all liability, losses and expenses of whatsoever kind or nature (including but not limited to interest, court cost, and counsel fees) which the companies may sustain or incur (1) by reason of the failure of the named insureds to comply with the convenants and provisions of this Bond and (2) in enforcing any of the convenants or provisions of this Bond, or any provisions of the Master Policy relating to such convenants or provisions;

For the purpose of recording this agreement, a photocopy acknowledged before a Notary Public to be a true copy hereof shall be regarded as an original.

The preceding Certificate of Insurance, Declarations and Bond form a part of the Master Policy. Cancellation or termination of the Master Policy or the Certificate of Insurance shall not affect the named insured's obligations under the policy or the Bond to pay the retrospective premiums and allowances for premium taxes, as provided in this *Certificate* and Condition 2 of the Master Policy.

In witness whereof, the named insureds have caused the Declaration and the Bond for Payment of Retrospective Premiums to be signed and sealed by a duly authorized officer, to be effective ———— eastern standard time.

Attest or Witness
Named Insureds:
By ————————————————
(Seal)
(Signature of Officer)

————————————————
(type or print Name & Title of Officer)
Date: ————————————————

In witness whereof, the companies subscribing the Master Policy have caused the Certificate of Insurance and the Declarations to be signed on their behalf by the President of Nuclear Energy Liability Insurance Association to be effective ———— eastern standard time, and countersigned below by a duly authorized representative.

For the Subscribing Companies of Nuclear Energy Liability Insurance Association.

By: President ————————————
Countersigned by ————————————
(Authorized Representative)

[49 FR 11153, Mar. 26, 1984]

PART 150—EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274

GENERAL PROVISIONS

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150.2 Scope.
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CONTINUED COMMISSION REGULATORY AUTHORITY IN OFFSHORE WATERS

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EXEMPTIONS IN AGREEMENT STATES

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CONTINUED COMMISSION REGULATORY AUTHORITY IN AGREEMENT STATES

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Sec.

CONTINUED COMMISSION AUTHORITY IN AGREEMENT STATES

150.16 Submission to Commission of nuclear material transfer reports.
150.17 Submission to Commission of source material reports.
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RECIPROCITY

150.20 Recognition of Agreement State licenses.
150.21 Transportation of special nuclear material by aircraft.

ENFORCEMENT

150.30 Violations.
150.31 Requirements for Agreement State regulation of byproduct material.
150.32 Funds for reclamation or maintenance of byproduct material.

AUTHORITY: Sec. 161, 68 Stat. 948, as amended, sec. 274, 73 Stat. 688, as amended (42 U.S.C. 2201, 2021); sec. 201, as amended, 88 Stat. 1242, as amended (42 U.S.C. 5841).

Sections 150.3, 150.15, 150.15a, 150.31, 150.32 also issued under secs. 11e(2), 81, 68 Stat. 923, 935, as amended, secs. 83, 84, 92 Stat. 3033, 3039 (42 U.S.C. 2014e(2), 2111, 2113, 2114). Section 150.14 also issued under sec. 53, 68 Stat. 930, as amended (42 U.S.C. 2073). Section 150.15 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 150.17a also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 150.30 also issued under sec. 234, 83 Stat. 444 (42 U.S.C. 2282).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 150.20(b)(2)-(4) and 150.21 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); § 150.14 is issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 150.16-150.19 and 150.20(b)(1) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

SOURCE: 27 FR 1352, Feb. 14, 1962, unless otherwise noted.

GENERAL PROVISIONS

§ 150.1 Purpose.

The regulations in this part provide certain exemptions to persons in Agreement States from the licensing requirements contained in chapters 6, 7, and 8 of the Act and from the regulations of the Commission imposing requirements upon persons who receive, possess, use or transfer byproduct material, source, or special nuclear material in quantities not sufficient to form a critical mass; and to define activities in Agreement States and in offshore waters over which the regulatory authority of the Commission continues. The provisions of the Act, and regulations of the Commission apply to all persons in Agreement States and in offshore waters engaging in activities over which the regulatory authority of the Commission continues.

[46 FR 44151, Sept. 3, 1981]

§ 150.2 Scope.

The regulations in this part apply to all States that have entered into agreements with the Commission or the Atomic Energy Commission pursuant to subsection 274b of the Act.

[27 FR 1352, Feb. 14, 1962, as amended at 40 FR 8794, Mar. 3, 1975]

§ 150.3 Definitions.

As used in this part:

(a) *Act* means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto;

(b) *Agreement State* means any State with which the Commission or the Atomic Energy Commission has entered into an effective agreement under subsection 274b of the Act. *Nonagreement State* means any other State.

(c) *Byproduct material* means: (1) Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material; or (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute *byproduct material* within the definition.

(d) *Commission* means the Nuclear Regulatory Commission or its duly authorized representatives;

(e) *Government agency* means any executive department, commission, independent establishment, corporation wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

(f) *Offshore waters* means that area of land and water, beyond Agreement States' Submerged Lands Act jurisdiction, on or above the U.S. Outer Continental Shelf.

(g) *Person* means: (1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, and State or any political subdivision of any political entity within a State, and any legal successor, representative, agent, or agency of the foregoing other than Government agencies;

(h) *Production facility* means: (1) Any equipment or device determined by rule of the Commission to be capable of the production of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device as determined by the Commission;

(i) *Source material* means: (1) Uranium, thorium, or any other material which is determined by the Commission pursuant to the provisions of section 61 of the Act to be source material; or (2) ores containing one or more of the foregoing materials, in such concentration as the Commission may by regulation determine from time to time;

(j) *Special nuclear material* means: (1) Plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing but does not include source material;

(k) *State* means any State, the District of Columbia, Puerto Rico, and any territory or possession of the United States; and

(l) *Utilization facility* means: (1) Any equipment or device, except an atomic weapon, determined by rule of the Commission to be capable of making use of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public, or peculiarly adapted for making use of atomic energy in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device as determined by the Commission.

[27 FR 1352, Feb. 14, 1962, as amended at 31 FR 15145, Dec. 2, 1966; 40 FR 8794, Mar. 3, 1975; 44 FR 55327, Sept. 26, 1979; 45 FR 18906, Mar. 24, 1980; 46 FR 44152, Sept. 3, 1981]

§ 150.4 Communications.

Except where otherwise specified in this part, all communications and reports concerning the regulations in this part should be addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Communications and reports may be delivered in person at the Commission's offices at 2120 L Street NW., Washington, DC, or at 11555 Rockville Pike, Rockville, MD.

[53 FR 6140, Mar. 1, 1988, as amended at 53 FR 43422, Oct. 27, 1988]

§ 150.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

CONTINUED COMMISSION REGULATORY AUTHORITY IN OFFSHORE WATERS

§ 150.7 Persons in offshore waters not exempt.

Persons in offshore waters are not exempt from the Commission's licensing and regulatory requirements with respect to byproduct, source, and special nuclear materials.

[46 FR 44152, Sept. 3, 1981]

§ 150.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150-0032.

(b) The approved information collection requirements contained in this part appear in §§150.16, 150.17, 150.17a, 150.19, 150.20, and 150.31.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In §§ 150.16 and 150.17, Form NRC-741 is approved under control number 3150-0003.

(2) In § 150.20, Form NRC-241 is approved under control number 3150-0013.

[49 FR 19629, May 9, 1984]

EXEMPTIONS IN AGREEMENT STATES

§ 150.10 Persons exempt.

Except as provided in §§ 150.15, 150.16, 150.17, 150.17a, 150.18, and 150.19, any person in an Agreement State who manufactures, produces, receives, possesses, uses, or transfers byproduct material, source material, or special nuclear material in quantities not sufficient to form a critical mass is exempt from the requirements for a license contained in Chapters 6, 7, and 8 of the Act, regulations of the Commission imposing licensing requirements upon persons who manufacture, produce, receive, possess, use, or transfer such materials, and from regulations of the Commission applicable to licensees. The exemptions in this section do not apply to agencies of the Federal government as defined in § 150.3.

[37 FR 9208, May 6, 1972, as amended at 4 FR 50718, July 31, 1980]

§ 150.11 Critical mass.

(a) For the purposes of this part, special nuclear material in quantities not sufficient to form a critical mass means uranium enriched in the isotope U-235 in quantities not exceeding 350 grams of contained U-235; uranium-233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams; or any combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of such ratios for all kinds of special nuclear materials in combination shall not exceed unity. For example, the following quantities in combination would not exceed the limitation and are within the formula, as follows:

(175 (grams contained U-235/350)+(5 grams U-233)/200)+(50 grams Pu/ 200)=1

(b) To determine whether the exemption granted in § 150.10 applies to the receipt, possession or use of special nuclear material at any particular plant or other authorized location of use, a person shall include in the quantity computed according to paragraph (a) of this section the total quantity of special nuclear material which he is authorized to receive, possess or use at the plant or other location of use at any one time.

[27 FR 1352, Feb. 14, 1962, as amended at 3 FR 12069, Sept. 22, 1965]

CONTINUED COMMISSION REGULATORY AUTHORITY IN AGREEMENT STATES

§ 150.14 Commission regulatory authority for physical protection.

Persons in Agreement States possessing, using or transporting special nuclear material of low strategic significance in quantities greater than 1 grams of plutonium or uranium-233 or uranium-235 (enriched to 20 percen or more in the U-235 isotope) or any combination greater than 15 grams when computed by the equation grams=grams uranium-235+grams plutonium+grams uranium-233 shall meet the physical protection requirements of § 73.67 of 10 CFR part 73.

[44 FR 43285, July 24, 1979, as amended at 44 FR 68199, Nov. 28, 1979]

§ 150.15 Persons not exempt.

(a) Persons in agreement States are not exempt from the Commission's licensing and regulatory requirements with respect to the following activities:

(1) The construction and operation of any production or utilization facility. As used in this subparagraph, *operation* of a facility includes, but is not limited to (i) the storage and handling of radioactive wastes at the facility site by the person licensed to operate the facility, and (ii) the discharge of radioactive effluents from the facility site.

(2) The export from or import into the United States of byproduct, source, or special nuclear material, or of any production or utilization facility.

(3) The disposal into the ocean or sea of byproduct, source, or special nuclear waste materials, as defined in regulations or orders of the Commission. For purposes of this part, ocean or sea means any part of the territorial waters of the United States and any part of the international waters.

(4) The transfer, storage or disposal of radioactive waste material resulting from the separation in a production facility of special nuclear material from irradiated nuclear reactor fuel. This subparagraph does not apply to the transfer, storage or disposal of contaminated equipment.

(5) The disposal of such other byproduct, source, or special nuclear material as the Commission determines by regulation or order should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission.

(6) The transfer of possession or control by the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source material or byproduct material whose subsequent possession, use, transfer, and disposal by all other persons are exempted from licensing and regulatory requirements of the Commission under Parts 30 and 40 of this chapter.

(7) The storage of:

(i) Spent fuel in an independent spent fuel storage installation (ISFSI), or

(ii) Spent fuel and high level radioactive waste in a monitored retrievable storage installation (MRS) licensed pursuant to part 72 of this chapter.

(b) Notwithstanding any exemptions provided in this part, the Commission may from time to time by rule, regulation, or order, require that the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material shall not transfer possession or control of such product except pursuant to a license or an exemption from licensing issued by the Commission.

[27 FR 1352, Feb. 14, 1962, as amended at 34 FR 7369, May 7, 1969; 53 FR 31683, Aug. 19, 1988]

§ 150.15a Continued Commission authority pertaining to byproduct material.

(a) Prior to the termination of any Agreement State license for byproduct material as defined in § 150.3(c)(2) of this part, or for any activity that results in the production of such material, the Commission shall have made a determination that all applicable standards and requirements pertaining to such material have been met.

(b) After November 8, 1981, the Commission reserves the authority to establish minimum standards regarding reclamation, long term surveillance (i.e., continued site observation, monitoring and, where necessary, maintenance), and ownership of byproduct material as defined in § 150.3(c)(2) of this part and of land used as a disposal site for such material. Such reserved authority includes:

(1) Authority to establish such terms and conditions as the Commission determines necessary to assure that, prior to termination of any license for byproduct material as defined in § 150.3(c)(2) of this part, or for any activity that results in the production of

such material, the licensee shall comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission; and with ownership requirements for such materials and its disposal site;

(2) The authority to require that prior to termination of any license for byproduct material as defined in § 150.3(c)(2) of this part, or for any activity that results in the production of such material, that title to such byproduct material and its disposal site be transferred to the United States or the State in which such material and land is located, at the option of the State (provided such option is exercised prior to termination of the license);

(3) The authority to permit use of the surface or subsurface estates, or both, of the land transferred to the United States or a State pursuant to paragraph (b)(2) of this section in a manner consistent with the provisions of the Uranium Mill Tailings Radiation Control Act of 1978, provided that the Commission determines that such use would not endanger the public health, safety, welfare, or the environment;

(4) The authority to require, in the case of a license for any activity that produces such byproduct material (which license was in effect on November 8, 1981) transfer of land and material pursuant to paragraph (b)(2), of this section, taking into consideration the status of such material and land and interests therein, and the ability of the licensee to transfer title and custody thereof to the United States or a State.

(5) The authority to require the Secretary of the Department of Energy, other Federal agency, or State, whichever has custody of such property and materials, to undertake such monitoring, maintenance and emergency measures as are necessary to protect the public health and safety and other actions at the Commission deems necessary to comply with the standards promulgated pursuant to the Uranium Mill Tailings Radiation Control Act of 1978; and

(6) The authority to enter into arrangements as may be appropriate to assure Federal long term surveillance (i.e., continued site observation, monitoring, and where necessary, maintenance) of such disposal sites on land held in trust by the United States for any Indian tribe or land owned by an Indian tribe and subject to a restriction against alienation imposed by the United States.

[45 FR 65536, Oct. 3, 1980]

CONTINUED COMMISSION AUTHORITY IN AGREEMENT STATES

§ 150.16 Submission to Commission of nuclear material transfer reports.

(a) Each person who transfers and each person who receives special nuclear material pursuant to an Agreement State license shall complete and distribute Nuclear Material Transaction Reports on Form NRC-741, in accordance with printed instructions for completing the form, whenever he transfers or receives a quantity of special nuclear material of 1 gram or more of contained uranium-235, uranium-223, or plutonium. Each person who transfers such material shall submit a copy of Form NRC-741 to the U.S. Department of Energy, P.O. Box E, Oak Ridge, TN 37830, and three (3) copies to the receiver of the material promptly after the transfer takes place. Each person who receives special nuclear material shall submit a copy of Form NRC-741 to the U.S. Department of Energy and to the shipper of the material within ten (10) days after the special nuclear material is received.

(b)(1) Each person who, pursuant to an Agreement State License, possesses 1 gram or more of contained uranium-235, uranium-233, or plutonium shall report immediately to the Regional Administrator of the appropriate NRC Regional Office listed in appendix A of part 73 of this chapter, by telephone, any theft or other unlawful diversion of special nuclear material which the licensee is licensed to possess or any incident in which an attempt has been made, or is believed to have been made, to commit a theft or unlawful diversion of special nuclear material.

(2) The licensee shall follow the initial report within a period of 15 days

with a written report submitted to the appropriate NRC Regional Office, shown in Appendix A of part 73 of this chapter, which sets forth the details of the incident. The licensee shall send copies of this report to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(3) Subsequent to the submission of the written report required by this paragraph, each licensee shall promptly inform the Regional Administrator of the appropriate NRC Regional Office by means of a written report of any substantive additional information which becomes available to the licensee concerning an attempted or apparent theft or unlawful diversion of special nuclear material.

[39 FR 39559, Nov. 8, 1974, as amended at 41 FR 16447, Apr. 19, 1976; 52 FR 31613, Aug. 21, 1987]

§ 150.17 Submission to Commission of source material reports.

(a) Except as specified in paragraph (d) of this section and § 150.17a, each person who, pursuant to an Agreement State specific license, transfers or receives or adjusts the inventory in any manner by 1 kilogram or more of uranium or thorium of foreign origin or who imports 1 kilogram or more of uranium of thorium of any origin shall complete and distribute a Nuclear Material Transaction Report on DOE/NRC Form 741 in accordance with the printed instructions for completing the form (NUREG/BR-0006). Copies of forms and instructions may be obtained by writing to U.S. Nuclear Regulatory Commission, Division of Safeguards and Transportation, Washington, DC 20555. Each person who transfers the material shall submit a completed copy of DOE/NRC Form 741 to the address specified in the printed instructions and three (3) copies to the receiver of the material no later than the close of business the next working day. Each person who receives the material shall submit a completed copy of DOE/NRC Form 741 to the address specified in the printed instructions and to the shipper of the material within ten (10) days after the material is received.

(b) Except as specified in paragraph (d) of this section and § 150.17a, each person authorized to possess at any one time and location, under an Agreement State license, more than 1,000 kilograms of uranium or thorium, or any combination of uranium or thorium, shall submit to the Commission within 30 days after September 30 of each year, a statement of the licensee's foreign origin source material inventory. This statement must be submitted to the address specified in the printed instructions (NUREG/BR-0007) and must include the Reporting Identification Symbol (RIS) assigned by the Commission to the licensee. Copies of the reporting instructions may be obtained by writing to U.S. Nuclear Regulatory Commission, Division of Safeguards and Transportation, Washington, DC 20555.

(c) Except as specified in paragraph (d) of this section, each person who is authorized to possess uranium or thorium pursuant to a specific license from an Agreement State shall report promptly to the appropriate NRC Regional Office shown in Appendix D of part 20 of this chapter by telephone and telegraph, mailgram, or facsimile any incident in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of more than 15 pounds of such material at any one time or more than 150 pounds of such material in any one calendar year. The initial report shall be followed within a period of fifteen (15) days by a written report submitted to the appropriate NRC Regional Office which sets forth the details of the incident and its consequences. Copies of such written report shall be sent to the U.S. Nuclear Regulatory Commission, Division of Safeguards and Transportation, Washington, DC 20555. Subsequent to the submission of the written report required by this paragraph, each person subject to the provisions of this paragraph, shall promptly inform the appropriate NRC Regional Office by means of a written report of any substantive additional information, which becomes available to such person, concerning an attempted or apparent theft or unlawful diversion of source material.

(d) The reports described in paragraphs (a), (b), and (c) of this section are not required for:

(1) Processed ores containing less than five (5) percent of uranium or thorium, or any combination of uranium and thorium, by dry weight;

(2) Thorium contained in magnesium-thorium and tungsten-thorium alloys, if the thorium content in the alloys does not exceed 4 percent by weight;

(3) Chemical catalysts containing uranium depleted in the U-235 isotope to 0.4 percent or less, if the uranium content of the catalyst does not exceed 15 percent by weight; or

(4) Any source material contained in non-nuclear end use devices or components, including but not limited to permanently installed shielding, teletherapy, radiography, X-ray, accelerator devices, or munitions.

[35 FR 12196, July 30, 1970, as amended at 36 FR 10938, June 5, 1971; 41 FR 16448, Apr. 19, 1976; 49 FR 24708, June 15, 1984; 51 FR 9767, Mar. 21, 1986; 52 FR 31613, Aug. 21, 1987]

§ 150.17a Compliance with requirements of US/IAEA safeguards agreement.

(a) For purposes of this section, the terms *effective kilogram*, *ore processing*, *installation*, and *United States eligible list* have the meaning set forth in § 75.4 of this chapter.

(b) Each person who, pursuant to an Agreement State License, is authorized to possess source material in amounts greater than one effective kilogram (except in ore processing) is subject to the provisions of part 75 of this chapter and shall comply with its applicable provisions. However, with respect to such persons, the Commission will issue orders under section 274m. of the Act instead of making license amendments; and, to the extent part 75 refers to license amendments and license conditions, such references shall be deemed, for purposes of this paragraph, to refer to orders under section 274m. of the Act.

(c) An applicant for an Agreement State License authorizing possession of source material in amounts greater than one effective kilogram (except in ore processing) shall notify the Commission at least 9 months prior to the date when the applicant desires to receive the source material.

(d) In response to a written request by the Commission, an applicant for an Agreement State License authorizing possession of source material in amounts greater than one effective kilogram (except in ore processing) shall file with the Commission the installation information described in § 75.11 of this chapter. The applicant shall also permit verification of such installation information by the International Atomic Energy Agency and take such other action as may be necessary to implement the US/IAEA Safeguards Agreement, in the manner set forth in § 75.6 and §§ 75.11 through 75.14 of this chapter.

[45 FR 50718, July 31, 1980, as amended at 47 FR 9, Jan. 4, 1982]

§ 150.19 Submission to Commission of tritium reports.

(a)-(b) [Reserved]

(c) Except as specified in paragraph (d) of this section, each person who, pursuant to an Agreement State license, is authorized to possess tritium shall report promptly to the appropriate NRC Regional Office as shown in appendix D of part 20 of this chapter by telephone and telegraph, mailgram, or facsimile any incident in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of more than 10 curies of such material at any one time or 100 curies of such material in any one calendar year. The initial report shall be followed within a period of fifteen (15) days by a written report submitted to the appropriate NRC Regional Office which sets forth the details of the incident and its consequences. Copies of such written report shall be sent to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Subsequent to the submission of the written report required by this paragraph, each person subject to the provisions of this paragraph shall promptly inform the appropriate NRC Regional Office by means of a written report of any substantive additional information, which becomes available to such person, concerning an attempted or apparent theft or unlawful diversion of tritium.

(d) The reports described in this section are not required for tritium possessed pursuant to a general license issued pursuant to regulations of an Agreement State equivalent to part 31 of this chapter or for tritium in spent fuel.

[37 FR 9208, May 6, 1972, as amended at 41 FR 16448, Apr. 19, 1976; 46 FR 55085, Nov. 6, 1981; 49 FR 24708, June 15, 1984; 52 FR 31613, Aug. 21, 1987]

RECIPROCITY

§ 150.20 Recognition of Agreement State licenses.

(a) Subject to the provisions of paragraph (b) of this section, any person holding a specific license from an Agreement State where the licensee maintains an office for directing the licensed activity, and at which radiation safety records are normally maintained, is hereby granted a general license to conduct the same activity in non-Agreement States and a general license to conduct the same activity in offshore waters: *Provided*, That the specific license does not limit the activity authorized by either general license to specified installations or locations.

(b) Notwithstanding any provision to the contrary in any specific license issued by an Agreement State to a person engaging in activities in a non-Agreement State or in offshore waters under the general licenses provided in this section, the general licenses provided in this section are subject to the provisions of §§ 30.7 (a) through (g), 30.9, 30.14(d), 30.34, 30.41, 30.51 to 30.63, inclusive, of part 30 of this chapter; §§ 40.7 (a) through (g), 40.9, 40.41, 40.51, 40.61, 40.63 inclusive, 40.71 and 40.81 of part 40 of this chapter; and §§ 70.7 (a) through (g), 70.9, 70.32, 70.42, 70.51 to 70.56, inclusive, §§ 70.60 to 70.62, inclusive, and § 70.7 of part 70 of this chapter; and to the provisions of 10 CFR part 19, 20 and 71 and subpart B of part 34 of this chapter. In addition, any person engaging in activities in non-Agreement States or in offshore waters under the general licenses provided in this section:

(1) Except as specified in paragraph (c) of this section, shall, at least 3 days before engaging in each such activity, file 4 copies of Form-241 (revised), "Report of Proposed Activities in Non-Agreement States," and 4 copies of its Agreement State specific license with the Regional Administrator of the U.S. Nuclear Regulatory Commission Regional Office listed in Appendix D of part 20 of this chapter for the Region in which the Agreement State that issued the license is located. That Regional Administrator may authorize the licensee to begin the activity upon notification by telephone of the licensee's intent to conduct the proposed activity under the general license: *Provided, however*, That 4 copies of Form-241 (revised) and 4 copies of the Agreement State license shall be filed within 3 days after the telephone notification. The Regional Administrator of the U.S. Nuclear Regulatory Commission Regional Office may waive the requirement for filing additional Forms-241 (revised) during the remainder of the calendar year following the receipt of the initial Form-241 (revised) from a person engaging in activities under the general license provided in this section;

(2) Shall not, in any non-Agreement State or in offshore waters, transfer or dispose of radioactive material possessed or used under the general licenses provided in this section, *except* by transfer to a person (i) specifically licensed by the Commission to receive such material, or (ii) exempt from the requirements for a license for such material under § 30.14 of this chapter;

(3) Shall not, under the general license concerning activities in non-Agreement States, possess or use radioactive materials, or engage in the activities authorized in paragraph (a) of this section, for more than 180 days in any calendar year, *except* that, the general license in paragraph (a) of this section concerning activities in offshore waters authorizes that person to possess or use radioactive materials, or engage in the activities authorized, for an unlimited period of time.

(4) Shall comply with all terms and conditions of the specific license issued by an Agreement State except such

terms or conditions as are contrary to the requirements of this section.

(c) A person engaging in activities in offshore waters under the general license provided for that purpose in paragraph (a) of this section need not file a Form NRC-241 (revised) with the Commission under paragraph (b)(1) of this section, *Provided*, That:

(1) At least 3 days before engaging in each such activity the person notifies the Agreement State that issued the specific license about the activity, including in the notification (i) a description of the activity, (ii) the location, (iii) the dates scheduled, (iv) a list of the sealed sources, or devices containing sealed sources, which will be possessed, used, installed, serviced, or tested, and (v) a description of the type and quantity of radioactive material contained in each sealed source or device; and (2) The Agreement State that issued the specific license is listed in paragraph (d) of this section as having entered into an agreement to perform inspections and other functions for the Commission.

(d) The following Agreement State has entered into an agreement to perform inspections and other functions for the Commission: Louisiana.

[35 FR 7725, May 20, 1970, as amended at 38 FR 1273, Jan. 11, 1973; 46 FR 44152, Sept. 3, 1981; 46 FR 50781, Oct. 15, 1981; 52 FR 41700, Oct. 30, 1987; 55 FR 10406, Mar. 21, 1990]

§ 150.21 Transportation of special nuclear material by aircraft.

Except as specifically approved by the Commission no shipment of special nuclear material in excess of 20 grams or 20 curies whichever is less of plutonium or uranium-233 shall be made by a licensee of an Agreement State in passenger aircraft.

[38 FR 3039, Feb. 1, 1973]

ENFORCEMENT

§ 150.30 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Act or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

[36 FR 16898, Aug. 26, 1971]

§ 150.31 Requirements for Agreement State regulation of byproduct material.

(a) Prior to November 8, 1981, in the licensing and regulation of byproduct material, as defined in § 150.3(c)(2) of this part, or of any activity which results in the production of such byproduct material, an Agreement State shall require compliance with the requirements in appendix A of 10 CFR part 40 of this chapter to the maximum extent practicable.

(b) After November 8, 1981, in the licensing and regulation of byproduct material, as defined in § 150.3(c)(2) of this part, or of any activity which results in the production of such byproduct material, an Agreement State shall require:

(1) Compliance with requirements in appendix A of 10 CFR part 40 of this chapter established by the Commission pertaining to ownership of such byproduct material and disposal sites for such material; and

(2) Compliance with standards which shall be adopted by the Agreement State for the protection of the public health, safety, and the environment from hazards associated with such material which are equivalent, to the extent practicable, or more stringent than, standards in appendix A of 10 CFR part 40 of this chapter adopted and enforced by the Commission for the same purposes, including requirements and standards subsequently promulgated by the Commission and the Administrator of the Environmental Protection Agency pursuant to the Uranium Mill Tailing Radiation Control Act of 1978; and

(3) Compliance with procedures hich:

(i) In the case of licenses, under tate law include:

(A) An opportunity, after public otice, for written comments and a ublic hearing, with a transcript;

(B) An opportunity for cross examiation; and

(C) A written determination by the ppropriate State official which is ased upon findings included in such etermination and upon the evidence resented during the public comment eriod and which is subject to judicial eview;

(ii) In the case of rulemaking, proide an opportunity for public particiation through written comments or a ublic hearing and provide for judicial eview of the rule;

(iii) Require for each licensing ction which has a significant impact n the human environment a written nalysis by the appropriate State gency (which shall be available to the ublic before the commencement of ny such proceedings) of the impact of uch licensing action, including any acivities conducted pursuant thereto, on he environment. Such analysis shall nclude:

(A) An assessment of the radiologial and nonradiological impacts to the ublic health of the activities to be onducted pursuant to such licenses;

(B) An assessment of any impact on ny waterway and groundwater resultng from such activities;

(C) Consideration of alternatives, including alternative sites and engineerng methods, to the activities to be onducted pursuant to such license; nd

(D) Consideration of the long term mpacts, including decommissioning, econtamination, and reclamation impacts associated with activities to be conducted pursuant to such license, including the management of any byproduct material, as defined in § 150.3(c)(2) of this part; and

(iv) Prohibit any major construction activity with respect to such material prior to complying with the provisions of paragraph (c)(3) of this section. As used in this paragraph the term *major construction activity* means any clearing of land, excavation, or other substantial action that would adversely affect the environment of a site. The term does not mean site exploration, necessary roads for site exploration, borings to determine foundation conditions, or other preconstruction monitoring or testing to establish background information related to the suitability of the site or the protection of environmental values.

(c) No Agreement State shall be required under paragraph (b) to conduct proceedings concerning any license or regulation which would duplicate proceedings conducted by the Commission.

(d) In adopting requirements pursuant to paragraph (b)(2) of this section, the State may adopt alternatives (including, where appropriate, site-specific alternatives) to the requirements adopted and enforced by the Commission for the same purpose if, after notice and opportunity for public hearing, the Commission determines that the alternatives will achieve a level of stabilization and containment of the sites concerned, and a level of protection for public health, safety and the environment from radiological and nonradiological hazards associated with the sites, which is equivalent to, to the extent practicable, or more stringent than the level which would be achieved by standards and requirements adopted and enforced by the Commission for the same purpose and any final standards promulgated by the Administrator of the Environmental Protection Agency in accordance with section 275. Alternative State requirements may take into account local or regional conditions, including geology, topography, hydrology and meteorology.

[45 FR 65537, Oct. 3, 1980, and 50 FR 41866, Oct. 16, 1985]

§ 150.32 Funds for reclamation or maintenance of byproduct material.

(a) The total amount of funds an Agreement State collects, pursuant to a license for byproduct material as defined in § 150.3(c)(2) of this part or for any activity that results in the production of such material, for reclamation or long term maintenance and monitoring of such material, shall after November 8, 1981, be transferred to the United States if title and custody of such material and its disposal site is transferred to the United States upon termination of such license. Such funds include, but are not limited to, sums collected for long term surveillance (i.e., continued site observation, monitoring and, where necessary, maintenance). Such funds do not however, include monies held as surety where no default has occurred and the reclamation or other bonded activity has been performed.

(b) If an Agreement State requires such payments for reclamation or long term surveillance (i.e., continued site observation, monitoring and, where necessary, maintenance), the payments must, after November 8, 1981, be sufficient to ensure compliance with those standards established by the Commission pertaining to bonds, sureties, and financial arrangements to ensure adequate reclamation and long term management of such byproduct material and its disposal site.

[45 FR 65537, Oct. 3, 1980; 48 FR 40882, Sept. 12, 1983]

PART 160—TRESPASSING ON COMMISSION PROPERTY

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AUTHORITY: Sec. 161, 68 Stat. 948, sec. 229, 70 Stat. 1070; 42 U.S.C. 2201, 2278a. Sec. 201(f) 88 Stat. 93-438, 88 Stat. 1243 (42 U.S.C. 5841).

SOURCE: 28 FR 8400, Aug. 16, 1963, unless otherwise noted.

§ 160.1 Purpose.

The regulations in this part are issued for the protection and security of facilities, installations and real property subject to the proprietory jurisdiction or administration, or in the custody of, the Nuclear Regulatory Commission.

[28 FR 8400, Aug. 16, 1963, as amended at 40 FR 8794, Mar. 3, 1975]

§ 160.2 Scope.

The regulations in this part apply to all facilities, installations, and real property subject to the jurisdiction or administration of the Nuclear Regulatory Commission or in its custody which have been posted with a notice of the prohibitions and penalties set forth in this part.

[40 FR 8794, Mar. 3, 1975]

§ 160.3 Trespass.

Unauthorized entry upon any facility, installation or real property subject to this part is prohibited.

§ 160.4 Unauthorized introduction of weapons or dangerous materials.

Unauthorized carrying, transporting, or otherwise introducing or causing to be introduced any dangerous weapon, explosive, or other dangerous instrument or material likely to produce substantial injury or damage to persons or property, into or upon any facility, installation or real property subject to this part, is prohibited.

§ 160.5 Violations and penalties.

(a) Whoever willfully violates either §§ 160.3 or 160.4 shall, upon conviction, be punishable by a fine of not more than $1,000.

(b) Whoever willfully violates either §§ 160.3 or 160.4 with respect to any facility, installation or real property enclosed by a fence, wall, floor, roof, or other structural barrier shall be guilty of a misdemeanor and, upon conviction, shall be punished by a fine of not to exceed $5,000 or imprisonment for not more than one year, or both.

§ 160.6 Posting.

Notices stating the pertinent prohibitions of §§ 160.3 and 160.4 and penalties of § 160.5 will be conspicuously posted at all entrances of each designated facility, installation or parcel of real property and at such intervals along the perimeter as will provide reasonable assurance of notice to persons about to enter.

60.7 Effective date of prohibition on designated locations.

The prohibitions in §§ 160.3 and 0.4 shall take effect as to any facili- , installation or real property on blication in the FEDERAL REGISTER of e notice designating the facility, in- allation or real property and posting accordance with § 160.6.

60.8 Applicability of other laws.

Nothing in this part shall be con- rued to affect the applicability of e provisions of State or other Feder- laws.

RT 170—FEES FOR FACILITIES AND MATERIALS LICENSES AND OTHER REGULATORY SERVICES UNDER THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

GENERAL PROVISIONS

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AUTHORITY: 31 U.S.C. 9701, 96 Stat. 1051; c. 301, Pub. L. 92-314, 86 Stat. 222 (42 S.C. 2201w); sec. 201, 88 Stat. 1242, as nended (42 U.S.C. 5841).

SOURCE: 33 FR 10924, Aug. 1, 1968; 33 FR 587, Aug. 15, 1968, unless otherwise noted.

GENERAL PROVISIONS

§ 170.1 Purpose.

The regulations in this part set out fees charged for licensing services rendered by the Nuclear Regulatory Commission as authorized under title V of the Independent Offices Appropriation Act of 1952 (65 Stat. 290; 31 U.S.C. 483a) and provisions regarding their payment.

[33 FR 10924, Aug. 1, 1968; 33 FR 11587, Aug. 15, 1968, as amended at 40 FR 8794, Mar. 3, 1975]

§ 170.2 Scope.

Except for persons who apply for or hold the permits, licenses, or approvals exempted in § 170.11, the regulations in this part apply to a person who is:

(a) An applicant for or holder of a specific byproduct material license issued pursuant to parts 30 and 32 through 35 and 39 of this chapter;

(b) An applicant for or holder of a specific source material license issued pursuant to part 40 of this chapter;

(c) An applicant for or holder of a specific special nuclear material license issued pursuant to part 70 of this chapter;

(d) An applicant for or holder of specific approval of spent fuel casks and shipping containers issued pursuant to part 71 of this chapter;

(e) An applicant for or holder of a specific license to possess power reactor spent fuel and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation issued pursuant to part 72 of this chapter;

(f) An applicant for or holder of a specific approval of sealed sources and devices containing byproduct material, source material, or special nuclear material;

(g) An applicant for or holder of a production or utilization facility construction permit, operating license, or manufacturing license issued pursuant to Part 50 of this chapter, or an early site permit, standard design certification, or combined license issued pursuant to part 52 of this chapter;

(h) Required to have examinations and tests performed to qualify or requalify individuals as part 55 reactor operators;

(i) Required to have routine and non-routine safety and safeguards inspections of activities licensed pursuant to the requirements of this chapter;

(j) Applying for or is holder of an approval of a standard reference design for a nuclear steam supply system of balance of plant;

(k) Applying for or already has applied for review, under 10 CFR part 52, appendix Q, of a facility site prior to the submission of an application for a construction permit;

(l) Applying for or already has applied for review of a standardized spent fuel facility design; or

(m) Applying for or has applied for since March 23, 1978, review of an item under the category of special projects in this chapter that the Commission completes or makes whether or not in conjunction with a license application on file or that may be filed.

(n) An applicant for or holder of a license, approval, determination, or other authorization issued by the Commission pursuant to 10 CFR part 61.

[49 FR 21301, May 21, 1984, as amended at 52 FR 8242, Mar. 17, 1987; 54 FR 15399, Apr. 18, 1989]

§ 170.3 Definitions.

As used in this part:

Advanced reactor means any nuclear reactor concept other than light water reactors and high temperature gas cooled reactors.

Application means any request filed with the Commission for a permit, license, approval, exemption, certificate, other permission, or for any other service.

Balance of plant consists of the remaining systems, components, and structures that comprise a complete nuclear power plant and are not included in the nuclear steam supply system.

Byproduct material means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

Government agency means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

Human use means the internal or external administration of byproduct, source, or special nuclear material, or the radiation therefrom, to human beings.

Indian organization means any commercial group, association, partnership, or corporation wholly owned or controlled by an Indian tribe.

Indian tribe means any Indian tribe, band, nation, or other organized group or community of Indians recognized as eligible for the services provided by the Secretary of the Interior because of their status as Indians.

Inspections means:

(1) Routine inspections designed to evaluate the licensee's activities within the context of the licensee having primary responsibility for protection of the public and environment.

(2) Non-routine inspections in response or reaction to an incident, allegation, followup to inspection deficiencies or inspections to determine implementation of safety issues. A non-routine or reactive inspection has the same purpose as the routine inspection.

Manufacturing license means a license pursuant to Appendix M of part 52 of this chapter to manufacture a nuclear power reactor(s) to be operated at sites not identified in the license application.

Materials License means a byproduct material license issued pursuant to part 30 of this chapter, or a source material license issued pursuant to part 40 of this chapter, or a special nuclear material license issued pursuant to part 70 of this chapter, or a license for the storage of spent fuel issued pursuant to part 72 of this chapter.

Nuclear reactor means an apparatus, other than an atomic weapon, designed or used to sustain nuclear fission in a self-supporting chain reaction.

Nuclear Steam Supply System consists of the reactor core, reactor coolant system, and related auxiliary systems including the emergency core cooling system; decay heat removal system; and chemical volume and control system.

Other production or utilization facility means a facility other than a nuclear reactor licensed by the Commission under the authority of section 103 or 104 of the Atomic Energy Act of 1954, as amended (the Act), and pursuant to the provisions of part 50 of this chapter.

Part 55 Reviews as used in this Part means those services provided by the Commission to administer requalification and replacement examinations and tests for reactor operators licensed pursuant to 10 CFR part 55 of the Commission's regulations and employed by part 50 licensees. These services also include related items such as the preparation, review, and grading of the examinations and tests.

Person as used in this part has the same meaning as found in parts 30, 40, 50, and 70 of title 10 of the Code of Federal Regulations.

Power reactor means a nuclear reactor designed to produce electrical or heat energy licensed by the Commission under the authority of section 103 or subsection 104b of the Act and pursuant to the provisions of § 50.21(b) or § 50.22 of this chapter.

Production facility means:

(1) Any nuclear reactor designed or used primarily for the formation of plutonium or uranium-233; or

(2) Any facility designed or used for the separation of the isotopes of uranium or the isotopes of plutonium, except laboratory scale facilities designed or used for experimental or analytical purposes only; or

(3) Any facility designed or used for the processing of irradiated materials containing special nuclear material except:

(i) Laboratory scale facilities designed or used for experimental or analytical purposes;

(ii) Facilities in which the only special nuclear materials contained in the irradiated material to be processed are uranium enriched in the isotope U^{235} and plutonium produced by the irradiation, if the material processed contains not more than 10^{-6} grams of plutonium per gram of U^{235} and has fission product activity not in excess of 0.25 millicurie of fission products per gram of U^{235}; and

(iii) Facilities in which processing is conducted pursuant to a license issued under parts 30 and 70 of this chapter, or equivalent regulations of an Agreement State, for the receipt, possession, use, and transfer of irradiated special nuclear material, which authorizes the processing of the irradiated material on a batch basis for the separation of selected fission products and limits the process batch to not more than 100 grams of uranium enriched in the isotope 235 and not more than 15 grams of any other special nuclear material.

Reference systems concept means a concept that involves the review of an entire facility design or major fraction of a facility design outside of the context of a license application. The standard design would be referenced in subsequent license applications.

Research reactor means a nuclear reactor licensed by the Commission under the authority of subsection 104c of the Act and pursuant to the provisions of § 50.21(c) of this chapter for operation at a thermal power level of 10 megawatts or less, and which is not a testing facility as defined by paragraph (m) of this section.

The phrase *review is completed* as used in this part means that the review has been brought to an end, whether by reason of issuance of a permit, license, approval, certificate, exemption, or other form of permission, or whether the application is denied, withdrawn, suspended, or action on the application is postponed by the applicant.

Sealed source means any byproduct material that is encased in a capsule designed to prevent leakage or escape of the byproduct material.

Source material means:

(1) Uranium or thorium, or any combination thereof, in any physical or chemical form; or

(2) Ores which contain by weight one-twentieth of one percent (0.05%) or more of

(i) uranium,

(ii) thorium, or

(iii) any combination thereof. Source material does not include special nuclear material.

Special nuclear material means:

(1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material but does not include source material; or

(2) Any material artificially enriched by any of the foregoing, but does not include source material.

Special Projects means those requests submitted to the Commission for review for which fees are not otherwise specified in this chapter. Examples of special projects include, but are not limited to, topical and other report reviews, early site reviews, waste solidification facilities, route approvals for shipment of radioactive materials, and services provided to certify licensee, vendor, or other private industry personnel as instructors for part 55 reactor operators.

Testing facility means a nuclear reactor licensed by the Commission under the authority of subsection 104c of the Act and pursuant to the provisions of § 50.21(c) of this chapter for operation at:

(1) A thermal power level in excess of 10 megawatts; or

(2) A thermal power level in excess of 1 megawatt, if the reactor is to contain:

(i) A circulating loop through the core in which the applicant proposes to conduct fuel experiments; or

(ii) A liquid fuel loading; or

(iii) An experimental facility in the core in excess of 16 square inches in cross-section.

Utilization facility means any nuclear reactor other than one designed or used primarily for the formation of plutonium or U^{235} and any other equipment or device determined by rule of the Commission to be a utilization facility within the purview of subsection 11cc of the Act.

[33 FR 10924, Aug. 1, 1968, as amended at 36 FR 146, Jan. 6, 1971; 38 FR 30254, Nov. 2, 1973; 40 FR 8794, Mar. 3, 1975; 43 FR 7218, Feb. 21, 1978; 46 FR 58284, Dec. 1, 1981; 49 FR 21302, May 21, 1984; 54 FR 15399, Apr. 18, 1989; 55 FR 21179, May 23, 1990]

§ 170.4 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 170.5 Communications.

All communications concerning the regulations in this part should be addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Communications may be delivered in person at the Commission's offices at 2120 L Street NW., Washington, DC, or at 11555 Rockville Pike, Rockville, MD.

[53 FR 6140, Mar. 1, 1988, as amended at 53 FR 43422, Oct. 27, 1988]

§ 170.11 Exemptions.

(a) No application fees, license fees, renewal fees, or inspection fees shall be required for:

(1) A license authorizing the export only of a production or utilization facility.

(2) A license authorizing the export only or import only of byproduct material, source material or special nuclear material.

(3) [Reserved]

(4) A construction permit or license applied for by, or issued to, a nonprofit educational institution for a production or utilization facility, other than a power reactor, or for the possession and use of byproduct material, source material, or special nuclear material. This exemption does not apply to those byproduct, source or special nuclear material licenses which authorize:

(i) Human use;

(ii) Remunerated services to other persons;

(iii) Distribution of byproduct material, source material, or special nuclear material or products containing byproduct material, source material, or special nuclear material; and

(iv) Activities performed under a Government agency contract.

(5) A construction permit, license, certificate of compliance, or other approval applied for by, or issued to, a Government agency, except for a utilization facility designed to produce electrical or heat energy pursuant to section 103 or 104b of the Atomic Energy Act of 1954, as amended.

(6)-(7) [Reserved]

(8) A license authorizing the use or source material as shielding only in devices and containers, provided, however, that all other licensed byproduct material, source material, or special nuclear material in the device or container will be subject to the fees prescribed in § 170.31.

(9) A license for possession and use of byproduct material, source material, or special nuclear material applied for by, or issued to, an agency of a State or any political subdivision thereof, except for licenses which authorize distribution of byproduct material, source material, or special nuclear material, or products containing byproduct material, source material, or special nuclear material, or licenses authorizing services to any person other than an agency or political subdivision of the State.

(10) Activities of the Commission undertaken, pursuant to part 75 of this chapter, solely for the purpose of implementation of the US/IAEA Safeguards Agreement.

(11) A license for possession and use of byproduct material, source material, or special nuclear material or other approval applied for by or issued to an Indian tribe or an Indian organization conducting licensed activities on tribal lands, except for licenses which authorize distribution of byproduct material, source material, or special nuclear material, or products containing byproduct material, source material, or special nuclear material, or licenses authorizing services to any person other than an Indian tribe or an Indian organization.

(b)(1) The Commission may, upon application by an interested person, or upon its own initiative, grant such exemptions from the requirements of this part as it determines are authorized by law and are otherwise in the public interest.

(2) Applications for exemption under this paragraph may include activities such as, but not limited to, the use of licensed materials for educational or noncommercial public displays or scientific collections.

[33 FR 10924, Aug. 1, 1968, as amended at 36 FR 146, Jan. 6, 1971; 36 FR 18173, Sept. 10, 1971; 37 FR 24029, Nov. 11, 1972; 38 FR 18443, July 11, 1973; 43 FR 7218, Feb. 21, 1978; 45 FR 50718, July 31, 1980; 49 FR 21302, May 21, 1984; 55 FR 21179, May 23, 1990]

§ 170.12 Payment of fees.

(a) *Application fees.* Each application for which a fee is prescribed shall be accompanied by a remittance in the full amount of the fee. Applications subject to fees for which no remittance is received will not be processed and may be returned to the applicant. All application fees will be charged irrespective of the Commission's disposition of the application or a withdrawal of the application.

(b) *License fees.* (1) Fees for applications for materials licenses not subject to full cost reviews must accompany the application when it is filed.

(2) Fees for applications for permits and licenses that are subject to fees based on the full cost of the reviews are payable upon notification by the Commission. Except as provided in paragraph (b)(3) of this section, each applicant will be billed at six-month intervals for all accumulated costs for each application the applicant has on file for review by the Commission until the review is completed. Each bill will identify the applications and costs related to each.

(3) For early site reviews issued under 10 CFR part 52, there is no application fee. Fees for the review of an application for an early site permit are deferred as follows: The permit holder shall pay the applicable fees for the permit at the time an application for a construction permit or combined license referencing the early site permit is filed. If, at the end of the initial period of the permit, no facility application referencing the early site permit has been docketed, the permit holder shall pay any outstanding fees

for the permit. Each bill will identify the applications and costs related to each.

(c) *Amendment fees and other required approvals.* (1) Amendment fees for materials licenses and approvals not subject to full cost reviews must accompany the application when it is filed.

(2) Fees for applications for license amendments, other required approvals and requests for dismantling, decommissioning and termination of licensed activities that are subject to full cost recovery are payable upon notification by the Commission. Each applicant will be billed at six-month intervals for all accumulated costs for each application the applicant has on file for review by the Commission until the review is completed, except for amendment and other approvals for early site permits which will be billed in a deferred manner consistent with that addressed in paragraph (d)(4) of this section. Each bill will identify the applications and costs related to each.

(d) *Renewal fees.* (1) Renewal fees for materials licenses and approvals not subject to full cost reviews must accompany the application when it is filed.

(2) Fees for applications for renewals that are subject to the full cost of the review are payable upon notification by the Commission. Except as noted in paragraphs (d)(3) and (d)(4) of this section, each applicant will be billed at six-month intervals for all accumulated costs for each application that the applicant has on file for review by the Commission until the review is completed. Each bill will identify the applications and the costs related to each.

(3) Fees for review of an application for renewal of a standard design certification shall be deferred as follows: The full cost of review for a renewed standard design certification must be paid by the applicant for renewal or other entity supplying the design to an applicant for a construction permit, combined license issued under part 52, or operating license, as appropriate, in five (5) equal installments. An installment is payable each of the first five times the renewed certification is referenced in an application for a construction permit, combined license, or operating license. The applicant for renewal shall pay the installment, unless another entity is supplying the design to the applicant for the construction permit, combined license, or operating license, in which case the entity shall pay the installment. If the design is not referenced, or if all costs are not recovered, within fifteen years after the date of renewal of the certification, the applicant for renewal shall pay the costs for the review of the application for renewal, or remainder of those costs, at that time.

(4) Fees for the review of an application for renewal of an early site permit shall be deferred as follows: The holder of the renewed permit shall pay the applicable fees for the renewed permit at the time an application for a construction permit or combined license referencing the permit is filed. If, at the end of the renewal period of the permit, no facility application referencing the early site permit has been docketed, the permit holder shall pay any outstanding fees for the permit.

(e) *Approval fees.* (1) Fees for applications for materials approvals that are not subject to full cost recovery must accompany the application when it is filed. Fees for those applications subject to full cost reviews are payable upon notification by the Commission. Each applicant will be billed at six month intervals until the review is completed. Each bill will identify the applications and the costs related to each.

(2)(i) There is no application fee for standardized design approvals or certifications issued under 10 CFR part 52. The full cost of review for a standardized design approval or certification must be paid by the holder of the design approval, the applicant for certification, or other entity supplying the design to an applicant for a construction permit, combined license issued under 10 CFR part 52, or operating license, as appropriate, in five (5) equal installments. An installment is payable each of the first five times the approved/certified design is referenced in an application for a construction permit, combined license issued under 10 CFR part 52, or operating license. In the case of a standard design certification, the applicant for certification shall pay the installment, unless another entity is supplying the design to the applicant for the construction permit, combined license, or operating license, in which case the other entity shall pay the installment.

(ii)(A) In the case of a design which has been approved but not certified and for which no application for certification is pending, if the design is not referenced, or if all costs are not recovered, within five years after the date of the preliminary design approval (PDA) or the final design approval (FDA), the applicant shall pay the costs, or remainder of those costs, at that time;

(B) In the case of a design which has been approved and for which an application for certification is pending, no fees are due until after the certification is granted. If the design is not referenced, or if all costs are not recovered, within fifteen years after the date of certification, the applicant shall pay the costs, or remainder of those costs, at that time.

(C) In the case of a design for which a certification has been granted, if the design is not referenced, or if all costs are not recovered, within fifteen years after the date of the certification, the applicant shall pay the costs for the review of the application, or remainder of those costs, at that time.

(f) *Special Project Fees.* Fees for applications for special projects such as topical reports are based on full cost of the reviews and are payable upon notification by the Commission. Each applicant will be billed at six-month intervals until the review is completed. Each bill will identify the applications and the costs related to each.

(g) *Inspection fees.* Fees for all routine and non-routine inspections will be assessed on a per inspection basis, and will be billed quarterly if they are based on full cost recovery. Inspection fees for small materials programs are billed upon completion of the inspection. Inspection fees are payable upon notification by the Commission. Inspection costs include preparation time, time on site and documentation time and any associated contractual service costs but exclude the time involved in the processing and issuance of a notice of violation or civil penalty.

(h) *Method of payment.* Fee payments shall be made by check, draft, money order or electronic fund transfer made payable to the U.S. Nuclear Regulatory Commission. Where specific payment instructions are provided on the bills to applicants or licensees, payment should be made accordingly, e.g., bills of $5,000 or more will normally indicate payment by electronic fund transfer.

(i) *Part 55 review fees.* The costs for part 55 review services will be subject to fees based on NRC time spent in administering the examinations and tests that are generally given at the reactor site and any related contractual costs. The costs also include related items such as preparing, reviewing, and grading of the examinations and tests. The costs will be billed at six-month intervals to the licensee employing the operators.

[43 FR 7218, Feb. 21, 1978, as amended at 49 FR 21302, May 21, 1984; 53 FR 52648, Dec. 29, 1988; 54 FR 15399, Apr. 18, 1989; 55 FR 21179, May 23, 1990; 55 FR 23836, June 12, 1990]

§ 170.20 Average cost per professional staff-hour.

Fees for permits, licenses, amendments, renewals, special projects, part 55 requalification and replacement examinations and tests, other required approvals and inspections under §§ 170.21 and 170.31 which are based upon the full costs for the review or inspection will be calculated using a professional staff rate per hour equivalent to the sum of the average cost to the agency for a professional staff member, including salary and benefits, administrative support and travel. The professional staff-hour rate for the NRC for FY 1990 is $92 per hour.

[55 FR 21180, May 23, 1990]

SCHEDULE OF FEES

§ 170.21 Schedule of fees for production and utilization facilities, review of standard reference design approvals, special projects, and inspections.

Applicants for construction permits, manufacturing licenses, operating li-

censes, approvals of facility standard reference designs, requalification and replacement examinations for reactor operators, and special projects and holders of construction permits, licenses, and other approvals shall pay fees for the following categories of services.

SCHEDULE OF FACILITY FEES

[See footnotes at end of table]

Facility categories and type of fees	Fees [1], [2]
A. Nuclear Power Reactors	
Application for Construction Permit	$125,000.
Early Site Permit, Construction Permit, Combined License, Operating License.	Full Cost.
Amendment, Renewal, Dismantling-Decommissioning and Termination, Other Approvals.	Full Cost.
Inspections [3]	Full Cost.
B. Standard Reference Design Review [4]	
Preliminary Design Approvals, Final Design Approvals, Certification.	Full cost.
Amendment, Renewal, Other Approvals	Full cost.
C. Test Facility/Research Reactor/Critical Facility	
Application for Construction Permit	$5,000.
Construction Permit, Operating License	Full cost.
Amendment, Renewal, Dismantling-Decommissioning and Termination, Other Approvals.	Full cost.
Inspections [3]	Full cost.
D. Manufacturing License	
Application	$125,000.
Preliminary Design Approval, Final Design Approval.	Full cost.
Amendment, Renewal, Other Approvals	Full cost.
Inspections [3]	Full cost.
E. Uranium Enrichment Plant	
Application for Construction Permit	$125,000.
Construction Permit, Operating License	Full cost.
Amendment, Renewal, Other Approvals	Full cost.
Inspections [3]	Full cost.
F. Advanced Reactors	
Application for Construction Permit	$125,000.
Early Site Permit, Construction Permit, Combined License, Operating License.	Full Cost.
Amendment, Renewal, Other Approvals	Full cost.
Inspections [3]	Full cost.
G. Other Production and Utilization Facility	
Application for Construction Permit	$125,000.
Construction Permit, Operating License	Full cost.
Amendment, Renewal, Other Approvals	Full cost.
Inspections [3]	Full cost.
H. Production or Utilization Facility Permanently Closed Down	
Inspections [3]	Full cost.
I. Part 55 Reviews	
Requalification and Replacement Examinations for Reactor Operators.	Full cost.
J. Special projects	
Approvals:	
1. Topical reports [2]	$50,000.
2. Amendments, revisions and supplements to topical reports [2].	$50,000.
3. All other approvals, special projects, reports and amendments except those specified in 1 and 2 above.	Full Cost.

[1] Fees will not be charged for orders issued by the Commission pursuant to § 2.204 of this chapter nor for amendments resulting specifically from such Commission orders. Fees will be charged for approvals issued pursuant to a specific exemption provision of the Commission's regulations under title 10 of the Code of Federal Regulations (e.g. §§ 50.12, 73.5) and any other sections now or hereafter in effect regardless of whether the approval is in the form of a license amendment, letter of approval, safety evaluation report, or other form. Fees for licenses in this schedule that are initially issued for less than full power are based on review through the issuance of a full power license (generally full power is considered 100% of the facility's full rated power). Thus, if a licensee received a low power license or a temporary license for less than full power and subsequently receives full power authority (by way of license amendment or otherwise), the total costs for the license will be determined thorugh that period when authority is granted for full power operating power operation. If a situation arises in which the Commission determines that full operating power for a particular facility should be less than 100% of full rated power, the total costs for the license will be at that decided lower operating power level and not at the 100% capacity.

[2] Full cost fees will be determined based on the professional staff time and appropriate contractual support services expended. For those applications currently on file and for which fees are determined based on the full cost expended for the review, the professional staff hours expended for the review of the application up to the effective date of this rule will be determined at the professional rates established for the June 20, 1984, and January 30, 1989, rule revisions, as appropriate. For those applications currently on file for which review costs have reached the applicable fee ceiling established by the June 20, 1984, rule, but are still pending completion of the review, the cost incurred after any applicable ceiling was reached through January 29, 1989, will not be billed to the applicant. Any professional staff-hours expended above those ceilings on or after January 30, 1989, will be assessed at the applicable rates established by § 170.20, as appropriate, except for topical reports whose costs exceed $50,000. Costs which exceed $50,000 for each topical report, amendment, revision or supplement to a topical report completed or under review from January 30, 1989, to the effective date of this rule will not be billed to the applicant. For topical reports, and amendments, revisions, and supplements to topical reports, the amount shown is the maximum that may be assessed for each report or each amendment, revision and supplement. In no event will the total review costs be less than $150.

[3] Inspections covered by this schedule are both routine and non-routine safety and safeguards inspections performed by NRC for the purpose of review or followup of a licensed program. Inspections are performed throughout the full term of the license to ensure that the authorized activities are being conducted in accordance with the Atomic Energy Act of 1954, as amended, other legislation, Commission regulations or orders, and the term and conditions of the license. Non-routine inspections that result from third-party allegations will not be subject to fees.

[4] Collection of the review costs for a preliminary design approval (PDA) and final design approval (FDA) are deferred, respectively, for a period of five years from the approval, except that, if the design is referenced during that period, 20 percent of the total costs will be payable by the holder of the design approval or certificate as each reference is made until the full costs are paid. If the design is certified, the five-year deferral period is extended to 15 years from the certification, with the same proviso that 20 percent of the costs will be payable each time the design is referenced. In the event the

full costs are not recovered by the end of the applicable deferral period, the holder of the design approval or certificate must pay the remainder of any costs not previously recovered by the NRC. Applications for amendments to PDAs, FDAs and certifications are subject to full costs and will be billed upon completion of the review.

[5] The amount shown represents the maximum amount that may be assessed for each topical report or each amendment, revision, and supplement to a topical report.

[53 FR 52648, Dec. 29, 1988, as amended at 54 FR 15400, Apr. 18, 1989; 54 FR 25658, June 16, 1989; 55 FR 21180, May 23, 1990]

§ 170.31 Schedule of fees for materials licenses and other regulatory services including inspections.

Applicants for materials licenses and other regulatory services and holders of materials licenses shall pay fees for the following categories of services. This schedule includes fees for health and safety, and safeguards inspections, where applicable.

SCHEDULE OF MATERIALS FEES

[See footnotes at end of table]

Category of materials licenses and type of fees [1]	Fee [2],[3]
1. Special nuclear material:	
A. Licenses for possession and use of 200 grams or more of plutonium in unsealed form or 350 grams or more of contained U-235 in unsealed form or 200 grams or more of U-233 in unsealed form. This includes applications to terminate licenses as well as licenses authorizing possession only:	
License, Renewal, Amendment	Full cost.
Inspections:	
Routine	Full cost.
Nonroutine	Full cost.
B. Licenses for receipt and storage of spent fuel at an independent spent fuel storage installation (ISFSI):	
License, Renewal, Amendment	Full cost.
Inspections:	
Routine	Full cost.
Nonroutine	Full cost.
C. Licenses for possession and use of special nuclear material in sealed sources contained in devices used in industrial measuring systems, including x-ray fluorescence analyzers: [4]	
Application—New license	$400.
Renewal	$400.
Amendment	$300.

SCHEDULE OF MATERIALS FEES—Continued

[See footnotes at end of table]

Category of materials licenses and type of fees [1]	Fee [2],[3]
Inspections:	
Routine	$370.
Nonroutine	$1,000.
D. All other special nuclear material licenses, except licenses authorizing special nuclear material in unsealed form in combination that would constitute a critical quantity, as defined in § 150.11 of this chapter, for which the licensee shall pay the same fees as those for Category 1A: [4]	
Application—New license	$550.
Renewal	$550.
Amendment	$180.
Inspections:	
Routine	$550.
Nonroutine	$640.
2. Source material:	
A. Licenses for possession and use of source material in recovery operations such as milling, in-situ leaching, heap-leaching, refining uranium mill concentrates to uranium hexafluoride, ore buying stations, ion exchange facilities and in processing of ores containing source material for extraction of metals other than uranium or thorium, including licenses authorizing the possession of byproduct waste material (tailings) from source material recovery operations, as well as licenses authorizing the possession and maintenance of a facility in a standby mode:	
License, Renewal, Amendment	Full cost.
Inspections:	
Routine	Full cost.
Nonroutine	Full cost.
B. Licenses for possession and use of source material for shielding, except as provided for in § 170.11(a)(8):	
Application—New license	$90.
Renewal	$90.
Amendment	$90.
Inspections:	
Routine	$230.
Nonroutine	$280.
C. All other source material licenses:	
Application—New license	$630.
Renewal	$600.
Amendment	$360.
Inspections:	
Routine	$640.
Nonroutine	$1,200.
3. Byproduct material:	
A. Licenses of broad scope for possession and use of byproduct material issued pursuant to parts 30 and 33 of this chapter for processing or manufacturing of items containing byproduct material for commercial distribution.	
Application—New license	$1,800.
Renewal	$1,100.
Amendment	$180.
Inspections: [5]	
Routine	$1,700.
Nonroutine	$1,700.

SCHEDULE OF MATERIALS FEES—Continued

[See footnotes at end of table]

Category of materials licenses and type of fees [1]	Fee [2,3]
B. Other licenses for possession and use of byproduct material issued pursuant to part 30 of this chapter for processing or manufacturing of items containing byproduct material for commercial distribution:	
Application—New license	$1,000.
Renewal	$1,800.
Amendment	$440.
Inspections: [4]	
Routine	$830.
Nonroutine	$1,600.
C. Licenses issued pursuant to §§ 32.72, 32.73, and/or 32.74 of part 32 of this chapter authorizing the processing or manufacturing and distribution or redistribution of radiopharmaceuticals, generators, reagent kits and/or sources and devices containing byproduct material:	
Application—New license	$2,700.
Renewal	$1,100.
Amendment	$370.
Inspections:	
Routine	$1,100.
Nonroutine	$1,500.
D. Licenses and approvals issued pursuant to §§ 32.72, 32.73, and/or 32.74 of part 32 of this chapter authorizing distribution or redistribution of radiopharmaceuticals, generators, reagent kits and/or sources or devices not involving processing of byproduct material:	
Application—New license	$900.
Renewal	$400.
Amendment	$250.
Inspections:	
Routine	$640.
Nonroutine	$920.
E. Licenses for possession and use of byproduct material in sealed sources for irradiation of materials in which the source is not removed from its shield (self-shielded units):	
Application—New license	$400.
Renewal	$380.
Amendment	$200.
Inspections:	
Routine	$370.
Nonroutine	$550.
F. Licenses for possession and use of less than 10,000 curies of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes:	
Application—New license	$920.
Renewal	$320.
Amendment	$280.
Inspections:	
Rountine	$460.
Nonroutine	$1,000.
G. Licenses for possession and use of 10,000 curies or more of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes:	
Application—New license	$3,700.
Renewal	$1,500.
Amendment	$370.
Inspections:	
Routine	$830.
Nonroutine	$1,100.
H. Licenses issued pursuant to subpart A of part 32 of this chapter to distribute items containing byproduct material that require device review to persons exempt from the licensing requirements of part 30 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of part 30 of this chapter:	
Application—New license	$1,700.
Renewal	$850.
Amendment	$200.
Inspections:	
Routine	$550.
Nonroutine	$550.
I. Licenses issued pursuant to subpart A of part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require device evaluation to persons exempt from the licensing requirements of part 30 of this chapter, except for specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of part 30 of this chapter:	
Application—New license	$2,100.
Renewal	$960.
Amendment	$280.
Inspections:	
Routine	$370.
Nonroutine	$550.
J. Licenses issued pursuant to subpart B of part 32 of this chapter to distribute items containing byproduct material that require sealed source and/or device review to persons generally licensed under part 31 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under part 31 of this chapter:	
Application—New license	$2,000.
Renewal	$480.
Amendment	$310.
Inspections:	
Routine	$550.
Nonroutine	$550.

SCHEDULE OF MATERIALS FEES—Continued

[See footnotes at end of table]

Category of materials licenses and type of fees [1]	Fee [2], [3]
K. Licenses issued pursuant to subpart B of part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require sealed source and/or device review to persons generally licensed under part 31 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under part 31 of this chapter:	
Application—New license	$1,500.
Renewal	$750.
Amendment	$230.
Inspections:	
Routine	$550.
Nonroutine	$550.
L. Licenses of broad scope for possession and use of byproduct material issued pursuant to parts 30 and 33 of this chapter for research and development that do not authorize commercial distribution:	
Application—New license	$1,800.
Renewal	$1,800.
Amendment	$400.
Inspections:	
Routine	$740.
Nonroutine	$920.
M. Other licenses for possession and use of byproduct material issued pursuant to part 30 of this chapter for research and development that do not authorize commercial distribution:	
Application—New license	$900.
Renewal	$900.
Amendment	$500.
Inspections:	
Routine	$640.
Nonroutine	$740.
N. Licenses that authorize services for other licensees, except (1) licenses that authorize calibration and/or leak testing services only are subject to the fees specified in fee Category 3P, and (2) licenses that authorize waste disposal services are subject to tho fees specified in fee Categories 4A, 4B, and 4C:	
Application—New license	$1,100.
Renewal	$640.
Amendment	$320.
Inspections:	
Routine	$550.
Nonroutine	$550.
O. Licenses for possession and use of byproduct material issued pursuant to part 34 of this chapter for industrial radiography operations:	
Application—New license	$2,400.
Renewal	$1,400.
Amendment	$390.
Inspections: [5]	
Routine	$920.
Nonroutine	$2,000.
P. All other specific byproduct material licenses, except those in Categories 4A through 9D:	
Application—New license	$400.
Renewal	$400.
Amendment	$300.
Inspections:	
Routine	$920.
Nonroutine	$920.
4. Waste disposal and processing:	
A. Licenses specifically authorizing the receipt of waste byproduct material, source material or special nuclear material from other persons for the purpose of commercial disposal by land burial by the licensee; or licenses authorizing contingency storage of low level radioactive waste at the site of nuclear power reactors; or licenses for treatment or disposal by incineration, packaging of residues resulting from incineration and transfer of packages to another person authorized to receive or dispose of waste material:	
License, renewal, amendment	Full cost.
Inspections:	
Routine	Full cost.
Nonroutine	Full cost.
B. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of packaging or repackaging the material. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material:	
Application—New license	$2,200.
Renewal	$1,500.
Amendment	$160.
Inspections:	
Routine	$1,700.
Nonroutine	$1,300.
C. Licenses specifically authorizing the receipt of prepackaged waste byproduct material, source material, or special nuclear material from other persons. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material:	
Application—New license	$1,500.
Renewal	$740.
Amendment	$180.
Inspections:	
Routine	$1,300.
Nonroutine	$1,700.
5. Well logging:	
A. Licenses for possession and use of byproduct material, source material, and/or special nuclear material for well logging, well surveys, and tracer studies other than field flooding tracer studies:	
Application—New license	$2,700.
Renewal	$1,600.
Amendment	$430.

SCHEDULE OF MATERIALS FEES—Continued

[See footnotes at end of table]

Category of materials licenses and type of fees [1]	Fee [2,3]
Inspections:	
Routine	$840.
Nonroutine	$640.
B. Licenses for possession and use of byproduct material for field flooding tracer studies:	
License, renewal, amendment	Full cost.
Inspections:	
Routine	$550.
Nonroutine	$830.
6. Nuclear laundries:	
A. Licenses for commercial collection and laundry of items contaminated with byproduct material, source material, or special nuclear material:	
Application—New license	$1,100.
Renewal	$1,100.
Amendment	$280.
Inspections:	
Routine	$920.
Nonroutine	$1,500.
7. Human use of byproduct, source, or special nuclear material:	
A. Licenses issued pursuant to parts 30, 35, 40, and 70 of this chapter for human use of byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices:	
Application—New license	$2,700.
Renewal	$630.
Amendment	$340.
Inspections:	
Routine	$920.
Nonroutine	$1,500.
B. Licenses of broad scope issued to medical institutions or two or more physicians pursuant to parts 30, 33, 35, 40 and 70 of this chapter authorizing research and development, including human use of byproduct material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices:	
Application—New license	$1,800.
Renewal	$1,600.
Amendment	$290.
Inspections:	
Routine	$1,300.
Nonroutine	$ 400.
C. Other licenses issued pursuant to parts 30, 35, 40, and 70 of this chapter for human use of byproduct material, source material, and/or special nuclear material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices:	
Application—New license	$570.
Renewal	$830.
Amendment	$340.
Inspections:	
Routine	$830.
Nonroutine	$1,200.
8. Civil defense:	
A. Licenses for possession and use of byproduct material, source material, or special nuclear material for civil defense activities:	
Application—New license	$460.
Renewal	$320.
Amendment	$250.
Inspections:	
Routine	$550.
Nonroutine	$550.
9. Device, product or sealed source safety evaluation:	
A. Safety evaluation of devices or products containing byproduct material, source material, or special nuclear material, except reactor fuel devices, for commercial distribution:	
Application—each device	$2,600.
Amendment—each device	$920.
Inspections	None
B. Safety evaluation of devices or products containing byproduct material, source material, or special nuclear material manufactured in accordance with the unique specifications of, and for use by a single applicant, except reactor fuel devices:	
Application—each device	$1,300.
Amendment—each device	$460.
Inspections	None.
C. Safety evaluation of sealed sources containing byproduct material, source material, or special nuclear material, except reactor fuel, for commercial distribution.	
Application—each source	$560.
Amendment—each source	$180.
Inspections	None.
D. Safety evaluation of sealed sources containing byproduct material, source material, or special nuclear material, manufactured in accordance with the unique specifications of, and for use by a single applicant, except reactor fuel:	
Application—each source	$280.
Amendment—each source	$90.
Inspections	None.
10. Transportation of radioactive material:	
A. Evaluation of casks, packages, and shipping containers:	
Approval, Renewal, Amendment	Full cost.
Inspections	None.
B. Evaluation of part 71 quality assurance programs:	
Application—Approval	$180.
Renewal	$180.
Amendment	$180.
Inspections:	None.
11. Review of standardized spent fuel facilities:	
Approval, Renewal, Amendment	Full cost.
Inspections	None.
12. Special projects:	
Approval:	
1. Topical reports [4]	$50,000.

SCHEDULE OF MATERIALS FEES—Continued

[See footnotes at end of table]

Category of materials licenses and type of fees [1]	Fee [2,3]
2. Amendments, revisions and supplements to topical reports [6].	$50,000.
3. All other approvals (including transportation route approvals), special projects, reports and amendments except those specified in 1 and 2 above.	Full cost.
Inspections	None.
13. A. Spent fuel storage cask—Certificate of Compliance:	
Approvals	Full cost.
Amendments, revisions and supplements.	Full cost.
Reapproval	Full cost.
B. Inspections related to spent fuel storage cask—Certificate of Compliance:	
Routine	Full cost.
Nonroutine	Full cost.
C. Inspections related to storage of spent fuel under § 72.210 of this chapter:	
Routine	Full cost.
Nonroutine	Full cost.
14. Byproduct, source of special nuclear material licenses and other approvals authorizing decommissioning, decontamination, reclamation or site restoration activities pursuant to 10 CFR parts 30, 40, 70 and 72:	
Approval, Renewal, Amendment	Full cost.
Inspection:	
Routine	Full cost.
Nonroutine	Full cost.

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[1] *Types of fees*—Separate charges as shown in the schedule will be assessed for applications for new licenses and approvals, issuance of new licenses and approvals, amendments and renewals to existing licenses and approvals, safety evaluations of sealed sources and devices, and inspections. The following guidelines apply to these charges:

(a) *Application fees*—Applications for new materials licenses and approvals or applications to reinstate expired licenses and approvals, except those subject to fees assessed at full cost, must be accompanied by the prescribed application fee for each category, except that applications for licenses covering more than one fee category of special nuclear material or source material must be accompanied by the prescribed application fee for the highest fee category.

(b) *License or approval fees*—Fees for applications for new licenses and approvals subject to full cost fees (fee Categories 1A, 1B, 2A, 4A, 5B, 10A, 11, 12, 13A, and 14) are due upon notification by the Commission in accordance with § 170.12 (b), (e), and (f).

(c) *Renewal or reapproval fees*—Applications for renewal of materials licenses and approvals must be accompanied by the prescribed renewal fee for each category, except that fees for applications for renewal of licenses and approvals subject to full cost fees (fee Categories 1A, 1B, 2A, 4A, 5B, 10A, 11, 12, 13A, and 14) are due upon notification by the Commission in accordance with § 170.12(d).

(d) *Amendment fees*—Applications for amendments to licenses and approvals, except those subject to fees assessed at full costs, must be accompanied by the prescribed amendment fee for each license affected. An application for an amendment to a license or approval classified in more than one fee category must be accompanied by the prescribed amendment fee for the category affected by the amendment unless the amendment is applicable to two or more fee categories in which case the amendment fee for the highest fee category would apply. For those licenses and approvals subject to full costs, (fee Categories 1A, 1B, 2A, 4A, 5B, 10A, 11, 12, 13A, and 14) amendment fees are due upon notification by the Commission in accordance with § 170.12(c). An application for amendment to a materials license or approval that would place the license or approval in a higher fee category or add a new fee category must be accompanied by the prescribed application fee for the new category. An application for amendment to a license or approval that would reduce the scope of a licensee's program to a lower fee category must be accompanied by the prescribed amendment fee for the lower fee category. Applications to terminate licenses authorizing small materials programs, when no dismantling or decontamination procedure is required, shall not be subject to fee.

(2) An application for amendment to a materials license or approval that would place the license or approval in a higher fee category or add a new fee category must be accompanied by the prescribed application fee for the new category.

(3) An application for amendment to a license or approval that would reduce the scope of a licensee's program to a lower fee category must be accompanied by the prescribed amendment fee for the lower fee category.

(4) Applications to terminate licenses authorizing small materials programs, when no dismantling or decontamination procedure is required, shall not be subject to fee.

(e) *Inspection fees*—Separate charges will be assessed for each routine and nonroutine inspection performed, except that inspections resulting from investigations conducted by the Office of Investigations and nonroutine inspections that result from third-party allegations will not be subject to fees. If a licensee holds more than one materials license at a single location, a fee equal to the highest fee category covered by the licenses will be assessed if the inspections are conducted at the same time, except in cases when the inspection fees are based on the full cost to conduct the inspection. The fees assessed at full cost will be determined based on the professional staff time required to conduct the inspection multiplied by the rate established under § 170.20 of this part, to which any applicable contractual support service costs incurred will be added. Licenses covering more than one category will be charged a fee equal to the highest fee category covered by the license. Inspection fees are due upon notification by the Commission in accordance with § 170.12(g). See Footnote 5 for other inspection notes.

[2] Fees will not be charged for orders issued by the Commission pursuant to § 2.204 of part 2 nor for amendments resulting specifically from such Commission orders. However, fees will be charged for approvals issued pursuant to a specific exemption provision of the Commission's regulations under title 10 of the Code of Federal Regulations (e.g., §§ 30.11, 40.14, 70.14, 73.5, and any other such sections now or hereafter in effect) regardless of whether the approval is in the form of a license amendment, letter of approval, safety evaluation report, or other form. In addition to the fee shown, an applicant may be assessed an additional fee for sealed source and device evaluations as shown in Categories 9A through 9D.

[3] Full cost fees will be determined based on the professional staff time and appropriate contractual support services expended. For those applications currently on file and for which fees are determined based on the full cost expended for the review, the professional staff hours expended for the review of the application up to the effective date of this rule will be determined at the professional rates established for the June 20, 1984, and January 30, 1989, rules, as appropriate. For those applications currently on file for which review costs have reached an applicable fee ceiling established by the June 20, 1984, rule, but are still pending completion of the review, the cost incurred after any applicable ceiling was reached through January 29, 1989, will not be billed to the applicant. Any professional staff-hours expended above those ceilings on or after January 30, 1989, will be assessed at the applicable rates established by § 170.20, as appropriate, except for topical reports whose costs exceed $50,000. Costs which exceed $50,000 for each topical report, amendment, revision or supplement to a topical report completed or under review from January 30, 1989, to the effective date of this rule will not be billed to the applicant. In no event will the total review costs be less than $150.

[4] Licensees paying fees under Categories 1A and 1B are not subject to fees under Categories 1C and 1D for sealed sources authorized in the same license except in those instances in which an application deals only with the sealed sources authorized by the license. Applicants for new licenses or renewal of existing licenses that cover both byproduct material and special nuclear material in sealed sources for use in gauging devices will pay the appropriate application or renewal fee for fee Category 1C only.

[8] For a license authorizing shielded radiographic installations or manufacturing installations at more than one address, a separate fee will be assessed for inspection of each location, except that if the multiple installations are inspected during a single visit, a single inspection fee will be assessed.

[9] The amount shown represents the maximum amount that may be assessed for each topical report or each amendment, revision, and supplement to a topical report.

[55 FR 21180, May 23, 1990; 55 FR 23836, June 12, 1990; 55 FR 25774, June 22, 1990, as amended at 55 FR 29195, July 18, 1990]

§ 170.32 Schedule of fees for health and safety, and safeguards inspections for materials licenses.

Materials licensees shall pay inspection fees as set forth in § 170.31.

[53 FR 52652, Dec. 29, 1988]

ENFORCEMENT

§ 170.41 Failure by applicant or licensee to pay prescribed fees.

In any case where the Commission finds that an applicant or a licensee has failed to pay a prescribed fee required in this part, the Commission will not process any application and may suspend or revoke any license or approval issued to the applicant or licensee or may issue an order with respect to licensed activities as the Commission determines to be appropriate or necessary in order to carry out the provisions of this part, parts 30, 32 through 35, 40, 50, 61, 70, 71, 72, and 73 of this chapter, and of the Act.

[49 FR 21309, May 21, 1984]

§ 170.51 Right to review and appeal of prescribed fees.

All debtors' requests for review of the fees assessed and appeal or disagreement with the prescribed fee (staff hours and contractual) must be submitted in accordance with the provisions of 10 CFR 15.31, "Disputed Debts," of this title.

[49 FR 21309, May 21, 1984; 49 FR 24113, June 12, 1984]

PART 171—ANNUAL FEE FOR POWER REACTOR OPERATING LICENSES

Sec.

171.1 Purpose.
171.3 Scope.
171.5 Definitions.
171.7 Interpretations.
171.9 Communications.
171.11 Exemption.
171.13 Notice.
171.15 Annual Fee: Power reactor operating licenses.
171.17 Proration.
171.19 Payment.
171.21 [Reserved]
171.23 Enforcement.
171.25 Collection, interest, penalties, and administrative costs.

AUTHORITY: Section 7601, Pub. L. 99-272, 100 Stat. 146, as amended by sec. 5601, Pub. L. 100-203, 101 Stat. 1330-275 (42 U.S.C. 2213); sec. 301, Pub. L. 92-314, 86 Stat. 222, (42 U.S.C. 2201(w)); sec. 201, 82 Stat. 1242, as amended (42 U.S.C. 5841).

SOURCE: 51 FR 33230, Sept. 18, 1986, unless otherwise noted.

§ 171.1 Purpose.

The regulations in this part set out the annual fee charged to persons licensed by the U.S. Nuclear Regulatory Commission to operate a power reactor as defined in this part.

§ 171.3 Scope.

The regulations in this part apply to any person holding an operating license for a power reactor as defined in this part.

§ 171.5 Definitions.

Budget means the funds appropriated by Congress for the NRC for each fiscal year, and if that appropriation is not passed on or before September 1 for that fiscal year, the funds most recently appropriated by Congress for the most recent fiscal year.

Budgeted obligations means the projected obligations of the NRC that likely will result in payments by the NRC during the same or a future fiscal year in providing regulatory services to licensees. For this purpose budgeted obligations include, but are not limited to, amounts of orders to be placed, contracts to be awarded, and services to be provided to licensees. Fees billed to licensees are based on budgeted obligations because the NRC's annual budget is prepared on an obligation basis.

Commission means the U.S. Nuclear Regulatory Commission or its duly authorized representatives.

Federal fiscal year means a year that begins on October 1 of each calendar year and ends on September 30 of the following calendar year. Federal fiscal years are identified by the year in which they end (e.g., fiscal year 1987 begins in 1986 and ends in 1987).

Nuclear reactor means an apparatus, other than an atomic weapon, used to sustain fission in a self-supporting chain reaction.

Operating license means having a license issued pursuant to § 50.57 of this chapter. It does not include licenses that only authorize possession of special nuclear material after the Commission has received a request from the licensee to amend its licensee to permanently withdraw its authority to operate or the Commission has permanently revoked such authority.

Overhead costs means (1) the Government benefits for each employee such as leave and holidays, retirement and disability costs, health and life insurance costs, and social security costs; (2) Travel Costs; (3) direct overhead, e.g., supervision, program support staff, etc.; and (4) indirect costs, e.g., funding and staff for administrative support activities. Factors have been developed for these overhead costs which are applied to hourly rates developed for employees providing the regulatory services within the categories and activities applicable to specified types or classes of reactors. The Commission views these costs as being reasonably related to the regulatory services provided to the licensees and, therefore, within the meaning of section 7601, COBRA.

Person means: (1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission; any state or any political subdivision of, or any political entity within, a state; any foreign Government or nation or any political subdivision of any such government or nation; or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

Power reactor means a nuclear reactor designed to produce electrical or heat energy and licensed by the Commission under the authority of section 103 or subsection 104b of the Atomic Energy Act of 1954, as amended, and pursuant to the provisions of § 50.21(b) or § 50.22 of this chapter.

[51 FR 33230, Sept. 18, 1986, as amended at 53 FR 52652, Dec. 29, 1988]

§ 171.7 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the regulations in this part by an officer or employee of the Commission, other than a written interpretation by the General Counsel, will be recognized as binding on the Commission.

§ 171.9 Communications.

All communications regarding the regulations in this part should be addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Communications may be delivered in person to the Commission's Offices at 11555 Rockville Pike, Rockville, MD, or at 2120 L Street NW., Washington, DC.

[53 FR 17916, May 19, 1988, as amended at 53 FR 43422, Oct. 27, 1988]

§ 171.11 Exemption.

The Commission may, upon application, grant an exemption, in part, from the annual fee required pursuant to this part. An exemption under this provision may be granted by the Commission taking into consideration the following factors:

(a) Age of the reactor;

(b) Size of the reactor;

(c) Number of customers in rate base;

(d) Net increase in KWh cost for each customer directly related to the annual fee assessed under this part; and

(e) Any other relevant matter which the licensee believes justifies the reduction of the annual fee.

§ 171.13 Notice.

The first installment of the annual fee for fiscal year 1987 will become due and payable 30 days after the effective date of this final rule. Thereafter, the annual fee, applicable to a power reactor with a license to operate and calculated in accordance with § 171.15 of this part, will be published in the FEDERAL REGISTER on or before September 1 each year. The fee will become due and payable to the NRC in accordance with § 171.19 of this part, except as provided in § 171.17 of this part. If the annual fee is based on the amount appropriated by the Congress for the prior fiscal year and Congress, during the fiscal year, enacts an appropriation different from that used in setting the fee, the annual fee will be revised to reflect the actual amount appropriated by Congress for the fiscal year. Notice of this revision will be published in the FEDERAL REGISTER.

§ 171.15 Annual Fee: Power reactor operating licenses.

(a) Each person licensed to operate a power reactor shall pay an annual fee for each power reactor unit for which the person holds an operating license at any time during the Federal Fiscal Year (FY) in which the fee is due.

(b) The basis for the annual fee shall be the sum of NRC costs budgeted for each FY for: (1) Research activities directly related to the regulation of power reactors, (2) power reactor regulation (except licensing and inspection activities, and part 55 operator licensing and instructor certification), and (3) safeguards activities for power reactors (other than those activities directly associated with plant-specific licensing and amendments).

(c) If the basis for the annual fee is greater than 45 percent of the NRC budget, less the sum of moneys estimated to be collected from the High Level Waste (HLW) fund administered by the Department of Energy and the total estimated fees chargeable under part 170 of this chapter, then the maximum annual fee for each nuclear power reactor that is licensed to operate shall be calculated as follows: (NRC FY Budget × .45) minus Sum of HLW moneys and estimated part 170 fees equals fees to be collected under part 171. Part 171 fees to be collected on a schedule based on the total from categories shown in the following table:

PART 171—FEES BY REACTOR CATEGORY-SUMMARY: WITH MINOR ADJUSTMENTS FOR PLANTS WEST OF ROCKIES OR WESTINGHOUSE PLANTS WITH ICE CONDENSERS THE FOLLOWING APPLY TO PLANT/CONTAINMENT

[Fees in millions]

Type	Number	Budget base × .84	Fee	Total collected
GE Mark I	(24)	$1.349	$1.133	$27.19
GE Mark II	(7)	1.443	1.212	8.48
GE Mark III	(4)	1.373	1.153	4.61
B&W	(8)	1.896	1.592	12.74
CE	(15)	1.391	1.168	17.52
Westinghouse	(48)	1.352	1.136	54.46
	(106)			$125.02

[51 FR 33230, Sept. 18, 1986; 51 FR 34083, Sept. 25, 1986; 53 FR 52653, Dec. 29, 1988; 55 FR 51401, Dec. 14, 1990]

§ 171.17 Proration.

The annual fee for a power reactor granted its license to operate after October 1 of a FY shall be prorated on the basis of the number of days remaining in that FY. Thereafter, the full fee would be due and payable each subsequent FY. Licenses revoked, suspended, or for which the licensee has requested amendment to permanently withdraw operating authority during the FY will not result in any refund of the annual fee or any portion thereof.

§ 171.19 Payment.

Fee payments may be made in any manner allowed under U.S. Department of Treasury regulations and described in the FEDERAL REGISTER notice published pursuant to § 171.13 of this part. The annual fee shall be paid in quarterly installments of 25 percent. A quarterly installment is due on October 1, January 1, April 1, and July 1 of each year.

§ 171.21 [Reserved]

§ 171.23 Enforcement.

If any person required to pay the annual fee fails to pay when the fee is due, the Commission may refuse to process any application submitted by or on behalf of the person with respect to any license issued to the person and may suspend or revoke any licenses held by the person.

§ 171.25 Collection, interest, penalties, and administrative costs.

The annual fee will be collected pursuant to the procedures of 10 CFR part 15. Interest, penalties, and administrative costs for late payments will be assessed in accordance with 10 CFR part 15 of this chapter, 4 CFR part 102, and other relevant regulations of the United States Government, as appropriate. In the event a quarterly installment is not made by the appropriate due date specified in § 171.19, the full fee becomes due and payable, with interest, penalties, and administrative costs of collection calculated from the date that quarterly installment was due.

PARTS 172-199—[RESERVED]

FINDING AIDS

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Each of the following documents is available for inspection at the Nuclear Regulatory Commission's Library, 7920 Norfolk Ave., Bethesda, MD. The individual documents are available through the sources listed below.

	10 CFR
American National Standards Institute	
1430 Broadway, New York, NY 10017	
ANSI MH5.1–1971 Basic Requirements for Cargo Containers (1971)	73.26
ANSI S3.6–1969 (R 1973) Specifications for Audiometers	Part 73, App. B, I.B.b(2)
Federal Specifications:	
Naval Publications and Forms Center, 5801 Tabor Rd., Philadelphia, PA 19120	
GSA Interim Federal Specification W–A–00450B (GSA–FSS): Alarm Systems, Interior, Security, Components For.	73.50
International Atomic Energy Agency	
Available from: Assistant Director, Security Office of Governmental and Public Affairs, Nuclear Regulatory Commission, Washington, DC 20555	
IAEA INFCIRC/225 Rev. 1, The Physical Protection of Nuclear Material.	110.43(a)(1)
International Standards Organization	
Case Postale 56, CH–1211, Geneve 20, Switzerland; also available from ANSI, 1430 Broadway, New York, NY 10018	
ISO 1496–1978 General Cargo Containers	73.26
ISO 389–1975 Standard Reference Zero for the Calibration of Puretone Audiometer.	Part 73, App. B, I.B.b(2)
National Rifle Association	
Competitions & Training Division, 1600 Rhode Island Ave., NW., Washington, DC 20036	
NRA Target Manufacturers Index, Dec. 1970	Part 73, App. B, IV.C–n.2

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